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FBI Fingerprint Identification Automation Study: AIDS III Evaluation Report

Volume VI: Environmental Analysis



November 15, 1980

Prepared for

U.S. Department of Justice
Federal Bureau of Investigation

Through an agreement with
National Aeronautics and Space Administration

by

Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

JPL PUBLICATION 80-79

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and sponsored by the U.S. Department of Justice, Federal Bureau of Investigation,
through an agreement with the National Aeronautics and Space Administration.

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ABSTRACT

This volume, Environmental Analysis, presents the results of the analysis of the external environment of the FBI Fingerprint Identification Division. It projects possible trends in the future environment of the Division that may have an effect on the work load, to determine if future work load will lie within the capability range of the proposed new system, AIDS III, as set out in the AIDS III Design Guidelines. Two working models of the environment are developed, the internal and external model, and from these scenarios are developed that lead to projection of possible future work load volume and mixture. Possible drivers of work load change are identified and assessed for upper and lower bounds of effects. Data used for the study were derived from historical information, analysis of the current situation, and from interviews with various agencies who are users of or stakeholders in the present system. For a synopsis of this entire report, see the Executive Summary in the Compendium (Volume I).

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SECTION I

INTRODUCTION, SUMMARY AND CONCLUSIONS

A. SCOPE AND PURPOSE OF EVALUATION

As described in Volume I of this report, the Jet Propulsion Laboratory, in agreement with the National Aeronautics and Space Administration, has contracted with the Department of Justice, Federal Bureau of Investigation, to evaluate the feasibility of the planned automation of the fingerprint identification process. An essential element of the feasibility analysis of the system is an estimation of the ability of the proposed automated fingerprint identification system to adapt to change. Sensitivity analysis was chosen by JPL as the appropriate methodology to test the adaptability of the proposed system.

This report summarizes a study provided as analytic framework for the evaluation of the prime contractor, Rockwell International's planned Automated Identification Division System Model III (AIDS III). The subject matter of this volume is the environment of the Division: the investigation and assessment of (1) the trends and forces now present in the collection of agencies and institutions that use and control the functions services and internal procedure of the Division and are judged able to lead to change in its existing patterns; and (2) the forces and trends in the society in which these organizations are imbedded that can have similar effects.

For this purpose, the Identification Division must be considered in its central role as an information system. To characterize such a system it is necessary to describe the technical aspects of information that flows through it, the sources of data, the methods of collecting, processing, storing and distributing information, the uses to which it is and can be put, and the needs and purposes of the users. (Much of this necessary analysis is reported in other volumes of this study, and subsequent sections of this volume deal with the latter two topics only in terms of the possibility and likelihood of change arising there.)

It is not enough to analyze the possibility and likelihood of change in terms of the existing structure of the Division as an information system. What is needed is the analysis of the structural changes that are likely to be imposed on the system by forces and pressures arising from within the agencies that use and control the information services: agencies that have little if any stake in the preservation and enhancement of the present system. This analysis does not include (and was not intended to include) estimates of the value of the various kinds of information supplied to the users and of the social value of the services provided by the users themselves. a study that has never been undertaken at least partly because the necessary data are not available. Thus. instead of the ideally complete study that would have included the assessment of structural

system capable of economic and operational efficiency, the study reported here has necessarily been limited to the assessment of existing pressures for structural change.

B. OBJECTIVES

The objectives of the analysis have been to determine the user community and the stakeholders in that community, those agencies, institutions and offices that may have an effect on the system; and to investigate these and other users who are potential drivers of change: the national criminal justice system, Congress, and the executive and judicial branches of the United States Government. Assessment was made of the nature of the changes that these stakeholders might initiate. This assessment was required to be both qualitative and quantitative. The quantitative results could then be used as source of dynamics for the sensitivity analysis.

Figure 1-1 illustrates the primary objective of the analysis, to determine whether changes in the external environment would lead to a work load greater than AIDS III capabilities. Specifically, the objective is to establish upper and lower bounds of projected use of the national, personal identification service provided by the Division and to determine the most likely projections lying between these bounds. These projections can then be used for sensitivity testing of the system. Figure 1-2 shows the work load projection specified by the Division to Rockwell for sizing the AIDS III system.

Figure 1-3 graphically depicts five scenarios which are discussed later in this report. These scenarios lead to the work load projections illustrated in Figure 1-4. Figure 1-4 also depicts the trends that can be hypothesized and may be substantiated by supporting research. In order to test the sensitivity of the system to change, the dynamic range of the variability of projected work load must be ascertained and verified.

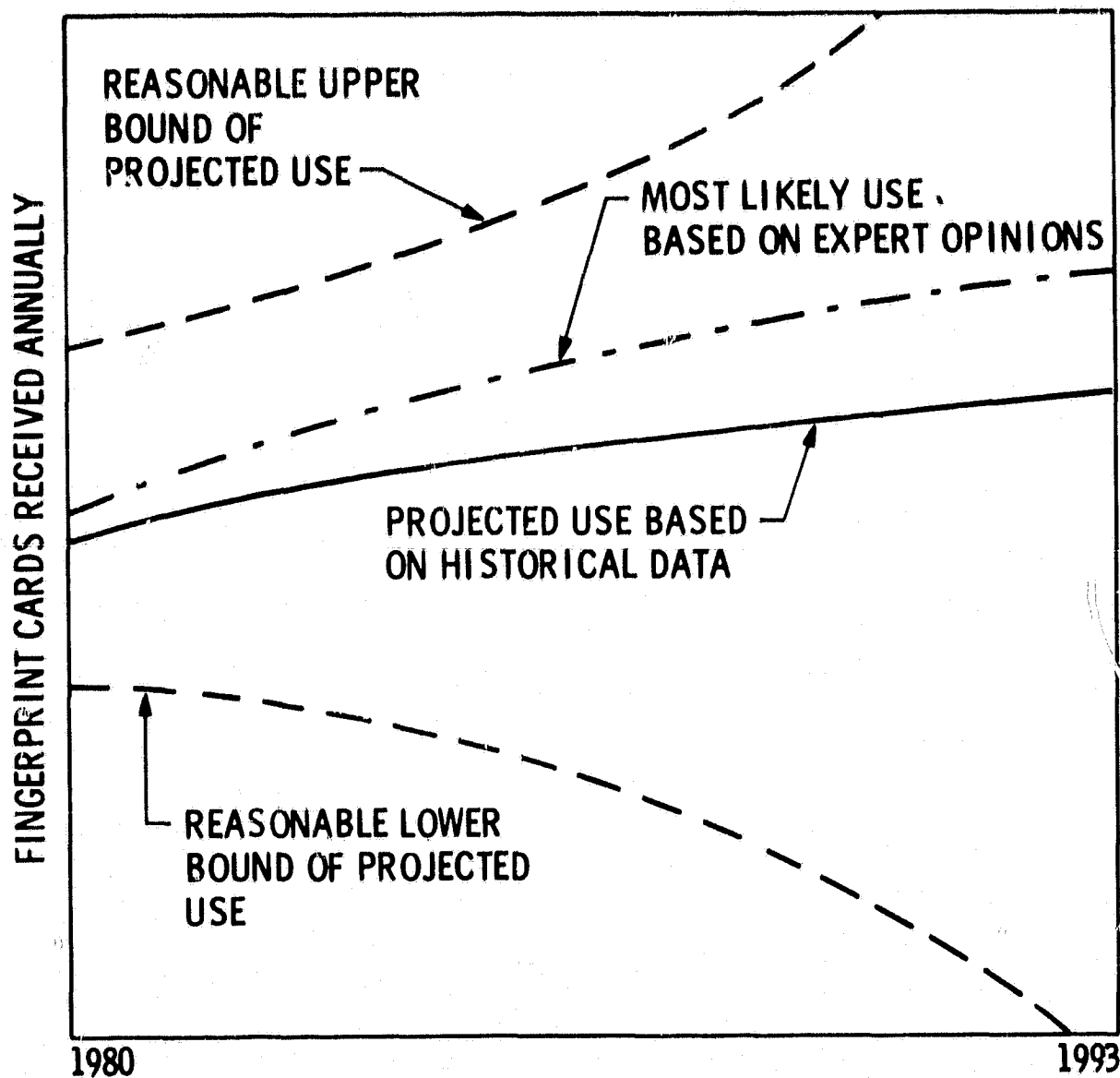
The changes in work load may be characterized by a variety of trends. The most important trends are those that appear most likely to occur, based on the totality of the data collected for the study. Historical data have been used, where possible, to project future trends in work load. The period of most interest for the study is from the present to 2004, the end of the 25-year life cycle. The date of the full capability of the automated system, 1993, is also of significant interest.

C. STRUCTURE OF ANALYSIS

1. Characterization of the Environment

The following sections of this report are organized into two different subsets. The first, titled "The Internal Model,"* discusses

*The title "Internal Model" corresponds to the perception of the environment from a viewpoint inside the Identification Division.



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Figure 1-1. Projected Bounds of Use

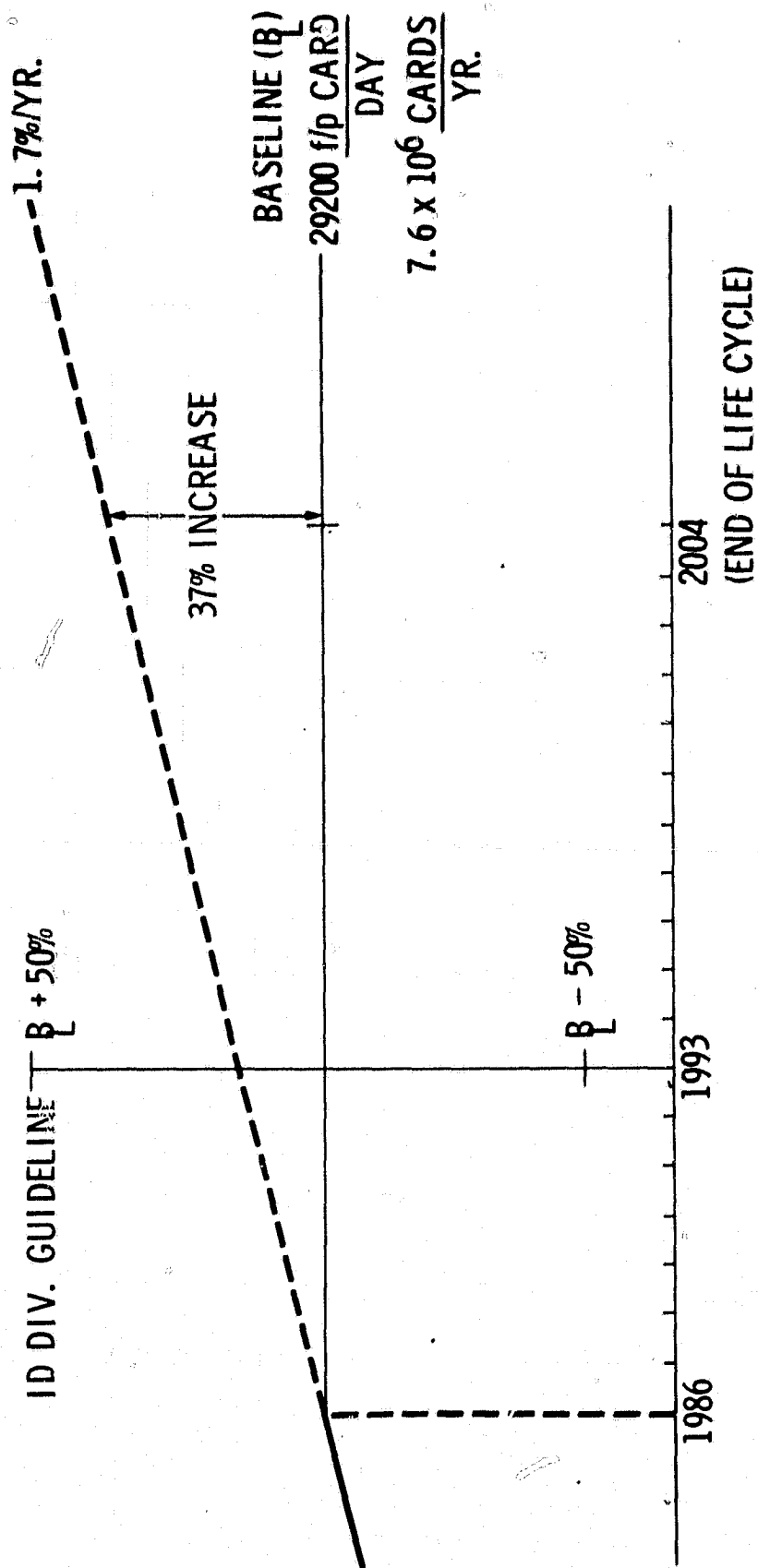


Figure 1-2. AIDS III Guidelines for Projected Work Load

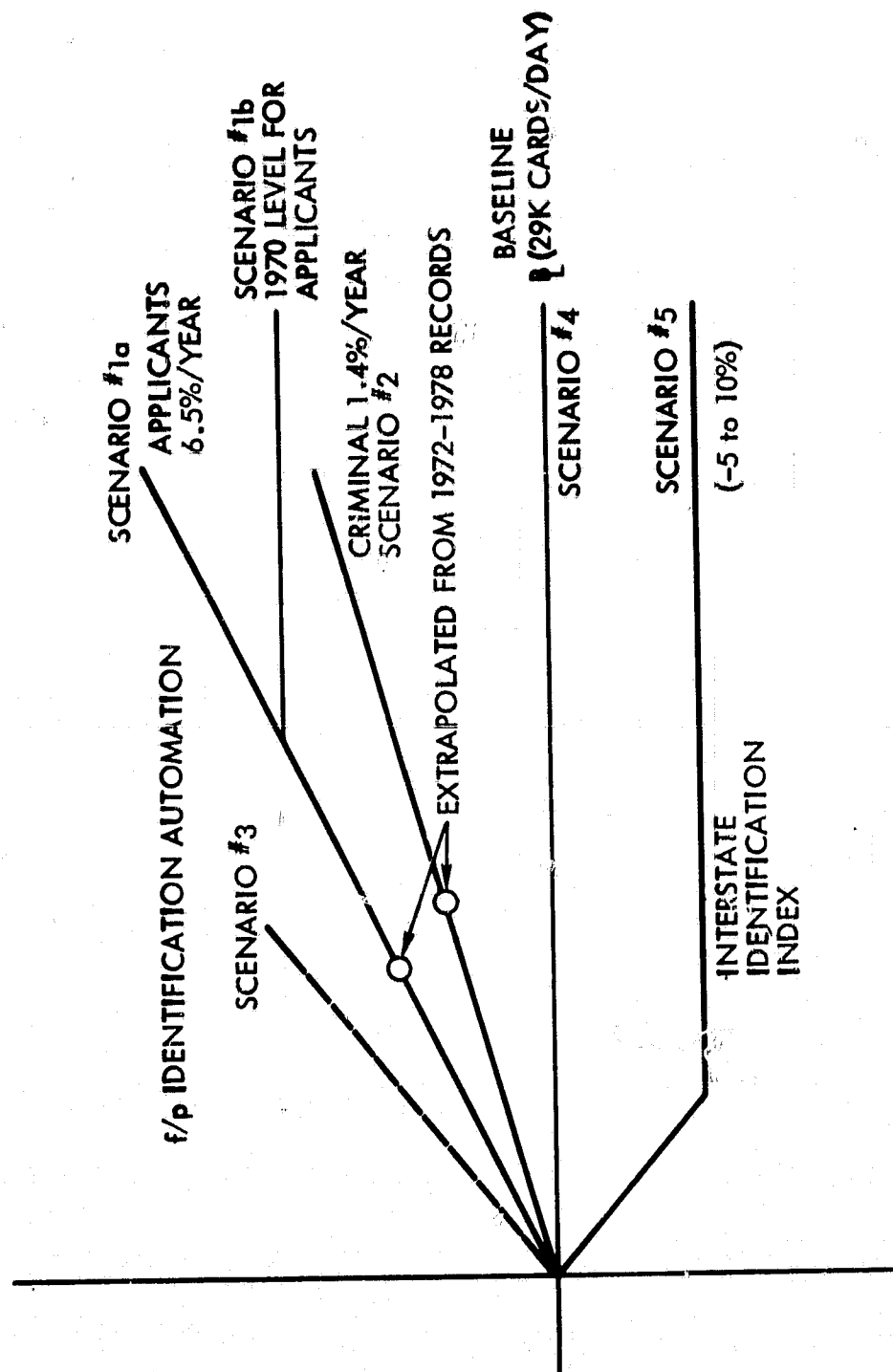


Figure 1-3. Projection of Effects of Environmental Scenarios on Work Load

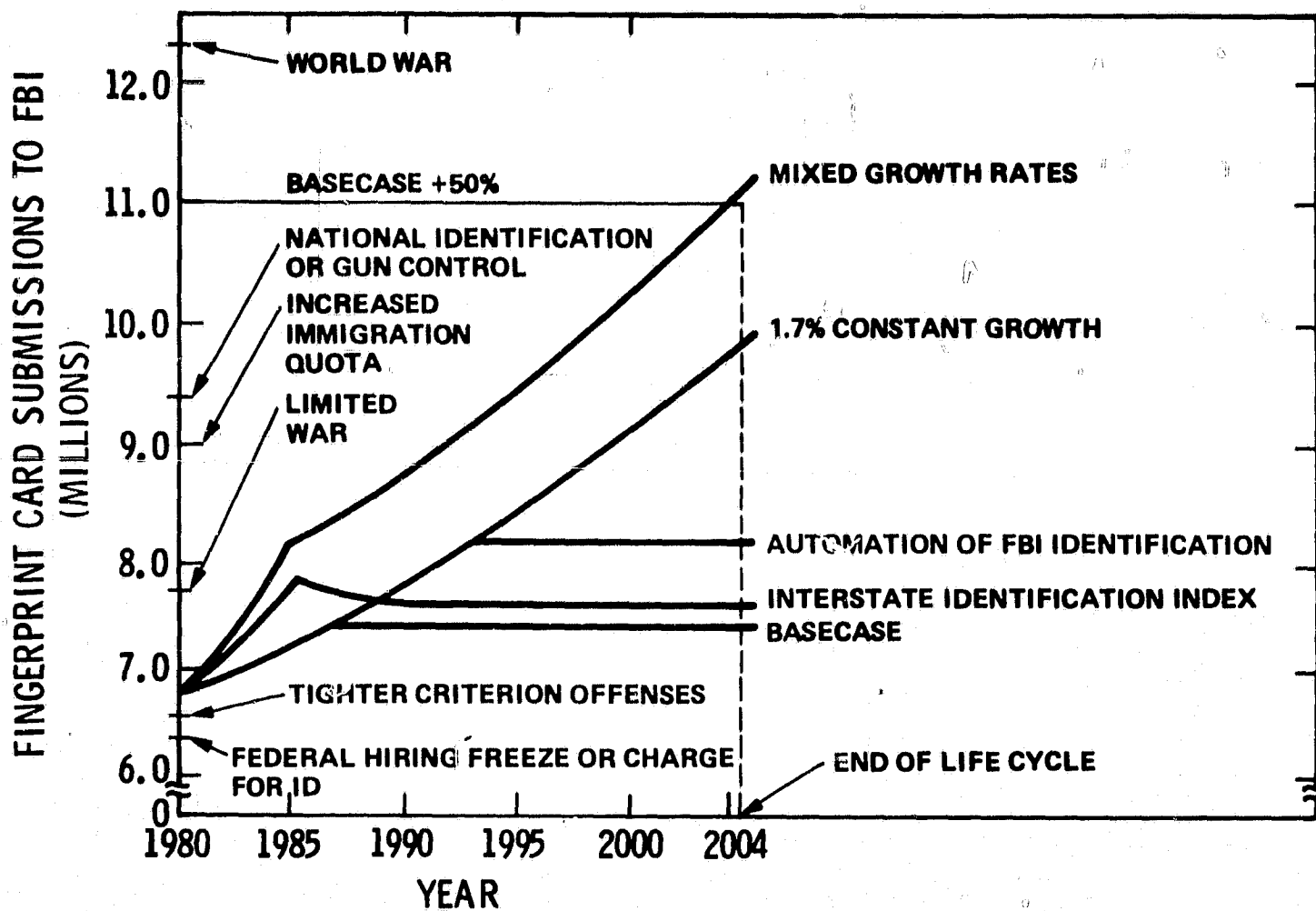


Figure 1-4. Relation of Drivers to Work Load Projection

changes required for the achievement of an effective information the magnitude and likelihood of direct changes in the work load of the Division. This analysis is directed toward estimating the impacts of observable trends; demographic, economic, social and political, on the volume, distribution, and mixture of the types of submissions and inquiries of the work load and on the functions performed within the identification process. The comparison of those estimates with the estimated capabilities of the present system and AIDS III is discussed in Volume IV. As a part of this analysis, the consequences of a set of "scenarios" describing possible alternative patterns for the work load are assigned quantitative values and compared with the appropriate measures for AIDS III. These values are chiefly based on historical data.

The second, a more critical and relevant section deals with what is termed "The External Model." In this model, the governance and control of the operations of the Identification Division are explored and the focus and techniques of that control are investigated, with the specific omission of the foregoing assumption that the structure of present operations is unchanged. In this part of the study, indications have been sought of forces present in the internal and external environment of the Division that can lead to changes in structure as well as in the volume and distribution of the existing workload. Qualitative assessments have also been carried out on the direction and magnitude of these forces.

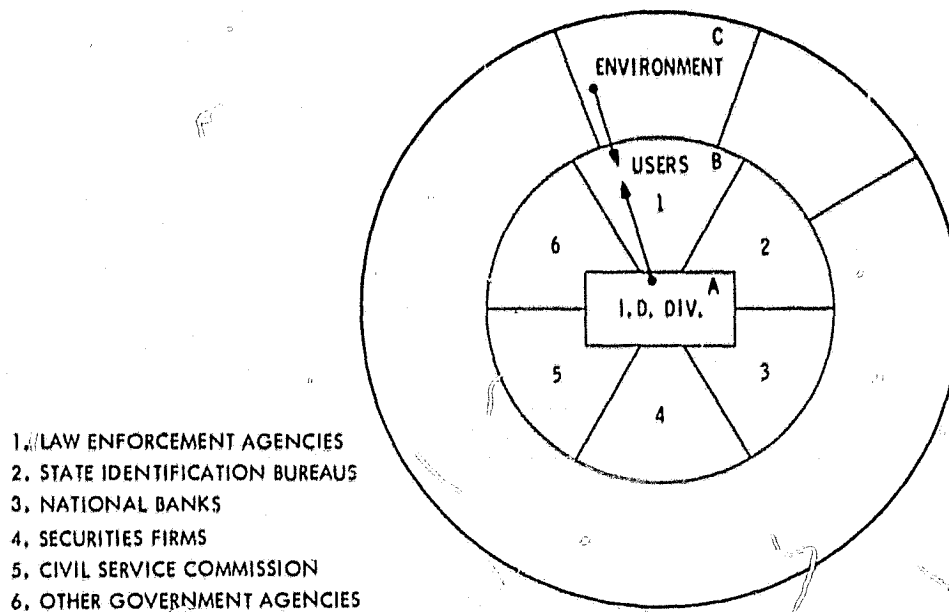
a. Internal Model. The internal model (Figure 1-5) is relatively simple. Users of Identification Division services submit requests for services in response to trends and events in the users' environments. Interaction between users and the Division is limited to (1) submissions and replies to submissions, (2) the imposition or removal of regulations on submissions according to the constraints of the operation. Both changes in policy and trends affecting rates of submissions are assumed to be associated with the users' environment. The impact of these changes and trends is assumed to be entirely embodied in the work load of submissions.

b. External Model. In contrast to the internal model, the external model is necessarily complex to take account of both the pressures that act as drivers of change in the relationships between the Division and the users of its services, and the actions of government agencies that also act as drivers of change upon the Division. The characteristics of the external model are also diagrammed in Figure 1-5.

In the external model, the Identification Division itself is included as one of the drivers that can produce change in both the distribution and volume of work load received and in the kind of services it supplies to other external environment members.

Clearly, although critically different approaches have been taken in the two different analyses, there is considerable interdependence between the subject matter and the results of the two, and neither is fully complete without the other.

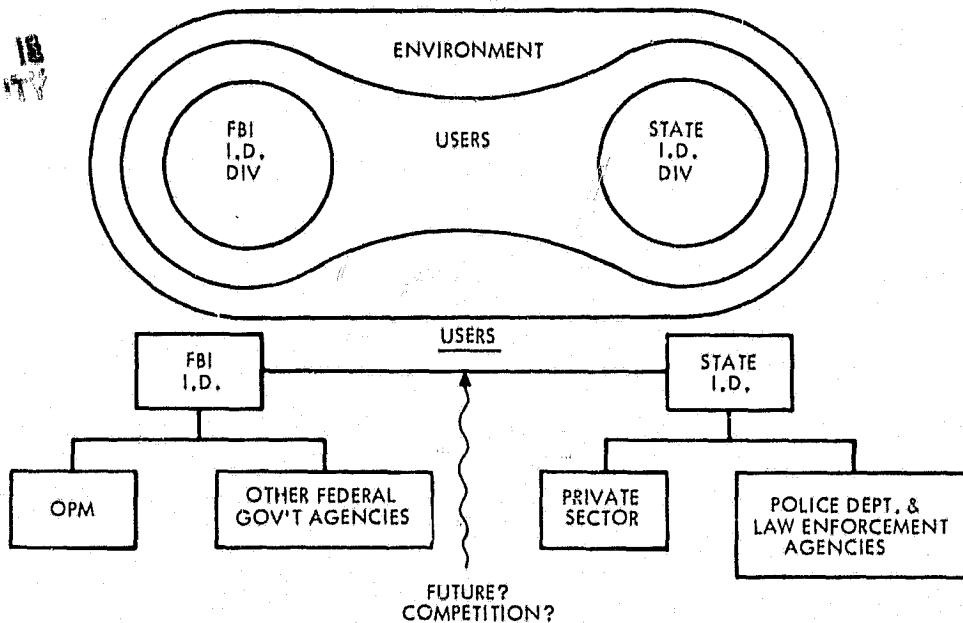
DIAGRAM OF INTERNAL MODEL
I. D. AND RECORD KEEPING ENVIRONMENT
INTERNAL MODEL



MODEL OF INTERNAL ENVIRONMENT VIEWPOINT

DIAGRAM OF EXTERNAL MODEL
I. D. AND RECORD KEEPING ENVIRONMENT
EXTERNAL MODEL

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MODEL OF EXTERNAL ENVIRONMENT VIEWPOINT

Figure 1-5. Internal and External Models of the Environment

Data collected for the two different models and the methodologies applied for the analysis are necessarily very different and thus will be discussed separately in the appropriate sections that follow. Briefly, the two different analyses are distinguished by the use of quantitative data and numerical/statistical analysis in the internal model and the collection of largely verbal responses from interviews and their analysis under the rubrics of organization theory in the external model.

2. Elements of the Analysis

The following essential elements of analysis were used in the study:

- (a) Determination of the drivers, defined as the social trends, policies and interactions capable of producing work load changes in the environment.
- (b) Assessment of the principal origins of these drivers classified as technological, economic, political legislative, demographic, arising from possible events, and others.
- (c) Determination of the direction (increase or decrease) and magnitude of the changes produced by each potential driver.
- (d) Assessment of the probability of the manifestation of change from each driver and of the concomitant effects.
- (e) Descriptions of the ways in which will these manifestations will come about, and the additional external drivers they will set in motion.
- (f) Development of scenarios to characterize the underlying causal relationships, and analysis of the consequences of these scenarios.

3. Definition of User and Stakeholder Groups

The user and stakeholder groups were defined as:

- (a) The national criminal justice system and, specifically, state identification bureaus and local law enforcement agencies.
- (b) National banks operated under federal charter.
- (c) Security firms, especially those under Security and Exchange Commission regulation.
- (d) Military recruiters.

- (e) The Federal Government and, specifically, the Office of Personnel Management.
- (f) Other employers requiring clearances for prospective employees.

4. Research Strategy

The research strategy consisted of:

- (a) Identification of users and stakeholders.
- (b) Analysis of their use of the identification system.
- (c) Collection of data by the use of:
 - (1) Questionnaires.
 - (2) Interview.
 - (3) Documentary research.
- (d) Analyses of the data, including:
 - (1) Identification of common themes.
 - (2) Development of working models.
 - (3) Verification of the working hypotheses.
- (e) Generation of implications of future trends.
- (f) Assignment of probabilities to outcomes.
- (g) Composition of scenarios.

D. SUMMARY AND CONCLUSIONS

1. Overview

Results of the analyses of the two different models are remarkably similar, and as noted above, interdependent. Both yield a description of the Identification Division as being in a "steady state," with a work load unlikely to be subject to large or abrupt changes for the near future (ten to fifteen years hence), and with an absence of external pressures that would induce structural change in its organization and operations.

2. Outline of Conclusions

- a. From Analysis of the Internal Model. Existing economic, demographic and political trends can be securely projected only to

follow recent historical patterns that reflect a general slowing of growth in demographic and economic indicators and a tendency toward "centrism" in the political arena, with political stasis evident in legislative and executive actions corresponding to the absence of clear consensus on the majority of political issues that can affect the needs for identification services. The effects on the work load of the Identification Division are thus projected to be minimal, so that work loads in the future are judged very likely to follow patterns of the recent past, and in only one case to exceed the limits plus or minus 50% of the 1993 projected work load of the Identification Division, as stated in AIDS III Guidelines. See Figures 1-2 through 1-4.

Major changes in the work load could be imposed by the passage of particular laws in Congress, specifically a law requiring the registration of some or all individually-owned firearms with the accompanying fingerprinting of owners or new purchasers, or a law establishing a national identification for employment program making the fingerprinting of all U.S. residents mandatory (see Figure 1-4). In either case, the assignment to the Identification Division of the task of collecting, processing, storing and distributing the required identification materials could not be accomplished without massive structural changes in the Division that would require reorganization on a large scale.

Events such as the declaration of war, the outbreak of widespread violence, the institution of a peace-time draft of civilians and the like cannot be ruled out as impossible, but their occurrence within a specified period of time cannot be assigned any but a highly subjective and speculative probability. Moreover, like the prospective national laws mentioned above, the impact of these events on the processing of identification data for individuals would in many cases require structural change in order to continue the centralization of identification within the Division.

Major technological innovations in either identification itself* or the processes of collecting, processing, storing and distributing fingerprint identification information is seen to be in process on the basis of observed research and applications for research. However, the adoption of either kind of new technology by the Division within the relatively near future is judged very unlikely.

None of the scenarios developed to describe alternative reasonable paths of increase or decrease in the work load of the Division led to an estimate that lay outside the limits of the AIDS III Guidelines except for one projection which exceeds the $\pm 50\%$ (see Figure 1-2) bound very near the projected end of the life cycle of the proposed system, i.e., 2004 (see Figure 1-4).

*Possible new technologies include voice prints, blood typing, the use of molecular biological techniques, etc.

b. From Analysis of the External Model. The actual environment of user agencies, legislative, executive and judicial agencies, federal and state agencies, and stakeholders of various kinds in which the Identification Division operates is characterized by wide diversity in scale, purpose and organizational structure and by a diffusion of control of the uses of identification information corresponding to the diversity in purpose and structure.

Although the majority of activities associated with fingerprint identification come from state and local agencies (53%), the use of the services of the Division by these agencies resists coherent analysis. Moreover, although crude measures of comparative use by individual states can be calculated, the determinants of such use are idiosyncratic and characterized by an impenetrably complex set of historical, regional, geographic, legal and social conditions that cannot usefully be grouped to yield multi-state subsets. Submission of information and inquiries for information addressed by state and local agencies to the Identification Division are only partly governed by statute or regulation. Such uses in fact have been found to be largely if not wholly discretionary and are correspondingly widely variable among states. Control of the volume and distribution of the work load of the Division by users is correspondingly complex and diffuse, with the controls available to the Division itself limited by regulatory restrictions.

Control of the Division as a government agency is assigned to other agencies in the executive hierarchy (the Department of Justice and the Office of Management and Budget) and to Congress in its constitutional responsibility for national laws and the federal budget. These agencies in turn are responsive to coherent pressures from local, state and regional interests, from stakeholders characterized by various degrees of organization, and to the federal judiciary. Control is directly exercised either by fiscal mechanisms that increase or decrease the funds available for the Division or by policy embodied in legislation or federal regulations.

Although change in either the work load or the structure of the Division could be initiated through the mechanisms controlled by other agencies, no evidence of the necessary conditions for such initiatives was observed in the extensive review of existing and planned policies that was undertaken for the study.

Indirect control of the work load and the structure of the Division could be exercised by coalitions of state agencies and/or local agencies organized to bring pressure to bear on Congress or the Executive. However, this initiative is judged to be unlikely on the basis of a review of existing policies and planning at the state and local level as well as on the basis of the observed diversity of concern at those levels with (1) the use of identification generally and (2) the use of the identification services of the Division specifically.

Despite some evidence of dissatisfaction with the services they receive, overall the agencies and institutions that compose the external environment of the Identification Division and that have the capability of initiating changes there were found to give very low priority to formulating new policies likely to affect the work load or structure of the Division.

Changes directed at the Identification Division as an organizational entity within the FBI were found to be unlikely because of the quagmire of economic, technical and political considerations they would be likely to produce. Instead, evidence was found that change in the assignment of existing functions, identification and record keeping, is already under consideration in the National Criminal Information Center (NCIC) and trials of programs to test the reassignment of criminal history record keeping away from its locus in the NCIC are currently in process.

SECTION II

ENVIRONMENTAL ANALYSIS: THE INTERNAL MODEL

A. INTRODUCTION

As described in Section I, two parallel but related investigations have been undertaken in the study of the environment of the Identification Division. Of these, the internal viewpoint of the Division was modeled to focus on the characteristics of the present work load of the Division and on the patterns it has displayed over the past ten years for which historical information is available. In this approach, the Identification Division was considered as an essentially autonomous agency, with a work load determined primarily by the demands of outside users for the various identification services and with the requirements of the users determined in turn by the circumstances of their external environments. This view corresponds to the model previously diagrammed in Figure 1-5, the "internal model."*

B. METHODOLOGY

The methodology for the study of the internal model has had quantitative analysis as its principle thrust. The relatively arbitrary scheme of classification for components of the work load is based on some necessary simplifications that permitted a more coherent and accessible presentation of the results, but care has been taken in applying the classification so that important distinctions would not be obscured. In addition to the analysis of quantitative data on the characteristics of the work load, this part of the study has made use of information supplied by experienced staff members of the Identification Division itself and of other sections of the Bureau. Their perceptions have been taken as the basis for the selection of a comprehensive collection of trends, policies and events that can have effects on the volume and distribution of the existing work load. These trends have been titled "drivers." The information supplied by the examination of drivers has been used to develop a set of "scenarios," that outline reasonable alternative descriptions of changes in the work load that could take place over time. These scenarios are also expressed in quantitative terms, and estimates have been made of the magnitude and likelihood of the effects of each of them.

*The other parallel study, discussed in Section V, was organized to investigate the operations of the Identification Division as a government agency subject to policies, regulations, controls and judicial decisions initiating in various other federal and state government agencies, and resulting in structural change as well as change in work load. The model developed for that study is termed the "external model."

A principal focus in both of the studies reported here has been the nature and probability of changes in the future work load of the Identification Division arising in the external environment. As in any study that attempts to derive usable information about the future, it is necessary to make a careful distinction here between the process of projecting existing patterns under the assumption that the forces and interactions between and among the determinants will remain more or less the same, and the act of prediction, which is essentially the expression of personal opinion. There is no hard-and-fast rule about the subject matter for projections: projections of future populations and economic conditions are perhaps the most familiar examples, but the determination of present and future patterns in funding and legislative actions by Congress is an equally legitimate projection. Unfortunately, the word "prediction" has a variety of uses in everyday speech that make it difficult to preserve the necessary distinction.

This distinction is particularly important for the discussions of the impacts of external drivers on the Identification Division work load, since these drivers include not only long-run social, economic, demographic, and political trends but particular events which might seem to fall into the prohibited class of predictions. In this case, the event - the passage of particular legislation by Congress, for example, or the declaration of war - cannot be predictable in the sense of having a probability very close to one of occurrence at a specific date. It may however be projected as likely or unlikely to occur during a given period of years, using as a basis the observed patterns of behavior in Congress and elsewhere and analysis of those patterns.

C. THE INTERNAL MODEL: DESCRIPTION OF THE DYNAMICS OF THE MODEL

The diagram of the internal model in Figure 1-5 suggests two possible locations of changes in the work load of the Identification Division: (1) the policies of acceptance and rejection of inquiries, submissions and information from users originating in the Division itself, and (2) the pressures and forces acting on the needs of the users initiating in their environment. In this model, the users per se are assumed to have little if any control on the volume and distribution of their use of the services of the Division, whether for record keeping or for identification, but are assumed to be governed themselves by existing or projected statutes, regulations, judicial decisions and the like.*

As is apparent from this outline, the users of the Division's services are thus treated as essentially transparent to the social environment of individuals, agencies and institutions in which they operate. This environment is largely identical with the social

*This heroic assumption is abandoned in the subsequent discussion of the external model.

environment of the United States, in which not only such quantifiable variables as population, employment, income, age distribution and the like undergo changes over time, but changes also occur in attitudes, values, behaviors and behavioral norms expressed in social and political institutions.

The methodology for investigating the properties of such a model is necessarily historical, but it does not consist entirely of displaying the paths over time of the relevant variables, although such displays and the direct conclusions that can be drawn from them are an appropriate component of the analysis. But these time paths must be interpreted, their origins sought and their consequences spelled out.

Clearly, what is being described here is the general methodology of all the social sciences in their current configuration as disciplines within the academic communities of scholarship and research. This study, however, is not such a work of social science; and although the papers and books consulted to provide background and insight have such origins, the approach taken here omits the discussion of deep issues of social, political and economic causality in favor of a more pragmatic technique that assumes the transmission of the effects of social trends and pressures directly through the users of the Identification Division to the volume and distribution of the Division's work load.

D. ANALYSIS OF THE WORK LOAD

1. Types of Services Provided by the Identification Division

Analysis of information supplied by the Identification Division indicates that the total amount of services supplied to users has remained relatively constant over the past ten years, although the distribution of tasks in the work load has varied to some extent. This constancy is judged to reflect in part conscious policy in the Division and in part reflects the stabilizing of certain national trends.

Before further discussion of the analysis, it will be worthwhile to make some distinctions between the types of services provided by the Division and the distribution of the work load. The fundamental distinction between fingerprint search and record-keeping activities is rather less clear in practice than might be expected. Every fingerprint search does in fact entail record keeping of one kind or another, but the converse is not the case. A considerable amount of record keeping and record searching has very little if any connection to fingerprints per se. Moreover, record keeping associated with fingerprint search differs according to the type of submission initiating the search. Thus, fingerprints of applicants for jobs and licenses in states where laws require fingerprint identification for these purposes are searched in criminal fingerprint files for matches (unless a match has been obtained on the basis of name, birth date,

physical characteristics, etc.). In either case, the match is verified by comparison of the subject's fingerprints to the criminal fingerprints on file. Those state applicant fingerprint cards that are not found are not retained in the Identification Division, and no record of them is kept. Fingerprints of those convicted of crimes are retained along with other information about such individuals ("rap sheets"), and subsequent inquiries about them may be answered without fingerprint search (the verification by comparison of fingerprints is still performed).

2. Classification of the Work Load

For the purposes of this analysis and somewhat arbitrarily, the work load of the Division has been estimated on the basis of a four-way classification scheme in Table 2-1 and Figures 2-1 and 2-2 that divide the fingerprint submissions into "criminal" and "applicant" and the users into "federal" and "state." As noted above, fingerprint submissions do not constitute the total work load however, and a second classification scheme based on the distinction between "fingerprint submissions" and "correspondence name checks" is used for Table 2-2. In that table, the numbers and proportions of inquiries of the two kinds are shown for the ten years, 1970 to 1979. There is no direct connection between the two classifications that would permit the assignment of the total inquiries to federal and state users. However, since all the entries under the classification "correspondence name checks" are necessarily concerned with criminal history record keeping or the dissemination of criminal history records, it is relatively safe to assume that the distribution of such inquiries between federal and state users is similar to the distribution between the users of criminal fingerprint submissions, as shown in Table 2-1.

Figure 2-3 shows that throughout the ten years shown, criminal submissions have mostly been in the majority. The sharp drop in criminal submissions between 1973 and 1974 followed the action by the Identification Division in reclassifying the offenses for which fingerprints were submitted, the similar decrease in applicant submissions between 1971 and 1972 was the result of a policy by the FBI* that applicant submissions could be accepted only for employment and licensing covered by state laws requiring such submissions. Subsequently many of these statutes were enacted.

An analysis of the historical records of the Identification Division indicates that the pattern of use for each activity has remained relatively constant over the past ten years. This pattern is revealed in Figures 2-3 and 2-4. There appears to be no ready explanation for the increase in government applications. The Office of Personnel Management, and the Department of Defense have indicated

*The FBI policy was implemented to carry out the direction and policy of the Department of Justice and the Congress.

Table 2-1. Percentage of Total Identification Division Activity by Source (FY 1979)

Source	Activity		Total
	Criminal Check	Applicant Check	
Federal	5% (307,000)	42% (2,581,000)	47%
	(2,335,000)	(922,000)	
State	38%	15%	53%
Total	43%	57%	100%

In order to relate sources of activity to function (i.e., identification and criminal history record keeping), certain estimates must be made, as Identification Division records do not collect data which enables direct calculation. To make these estimates, the following information taken from the records of the Identification Division was used:

- (1) 95% of all names checked in connection with applicant and licensing checks require a full fingerprint search.
- (2) 5% of all applicant checks involve a record on file in the Identification Division.
- (3) 73% of all criminal checks result in a match (i.e., a person is determined to have a record at the Identification Division) with only a name check or check of an FBI number.
- (4) 27% of all criminal checks do not produce a match on a name check and require a full fingerprint search.

This information is diagrammed in Figure 2-1.

Table 2-2. Fingerprint Submissions and Correspondence Name Checks Received

Year	Correspondence Name Checks Received	Total	Criminal	Armed Forces	Misc. Applicants From Law Enforcement Agencies (Including Common Carrier)	Banks	Gov't Applications (Including OPM Security)	Other (Deceased, Alien, Personal Identification, Illegibles)	Illegible
Total Number Prints Received									
1970	3,803,829	6,429,901	3,206,258	790,915	1,408,900	122,862	1,122,759	354,818*	214,506
1971	4,389,445	5,981,434	3,440,613	729,084	877,938	117,255	1,006,010	284,758	254,860
1972	4,529,222	5,509,616	3,538,697	568,596	380,532	82,940	937,711	292,093	277,643
1973	6,034,310	5,521,834	3,253,119	512,476	576,299	117,595	948,189	309,534	317,098
1974	4,732,163	5,131,036	2,768,663	387,351	566,077	152,148	1,036,866	290,579	316,703
1975	5,146,792	5,304,260	2,883,834	492,885	633,110	118,950	1,044,094	290,145	334,527
1976	5,379,475	5,176,327	2,873,296	469,611	647,032	128,520	923,353	265,383	338,743
1977	4,163,797	5,528,795	2,877,777	539,508	765,994	190,857	991,602	271,139	431,426
1978	4,974,392	5,922,952	2,931,402	454,200	831,648	212,895	1,159,544	287,298	500,165
1979	4,324,048	5,679,340	2,839,081	466,319	793,766	343,499	993,121		
Percent									
1970		100	21.9	49.9	12.3	1.9	17.5	5.5	3.3
1971		100	14.7	58.5	12.2	2.0	16.8	4.8	4.2
1972		100	6.9	64.2	10.3	1.5	17.0	5.3	5.0
1973		100	10.4	58.9	9.3	2.1	17.2	5.6	5.7
1974		100	11.0	54.0	7.5	3.0	20.2	5.7	6.2
1975		100	12.0	54.4	9.3	2.2	19.7	5.5	6.3
1976		100	12.5	55.5	9.1	2.5	17.9	5.1	6.5
1977		100	13.9	52.1	9.8	3.5	17.9	4.9	7.8
1978		100	14.0	49.5	7.7	3.6	19.6	4.9	8.4
1979		100	14.0	50.0	8.2	6.0	17.5	-	-

*Includes 52,899 unaccounted for.

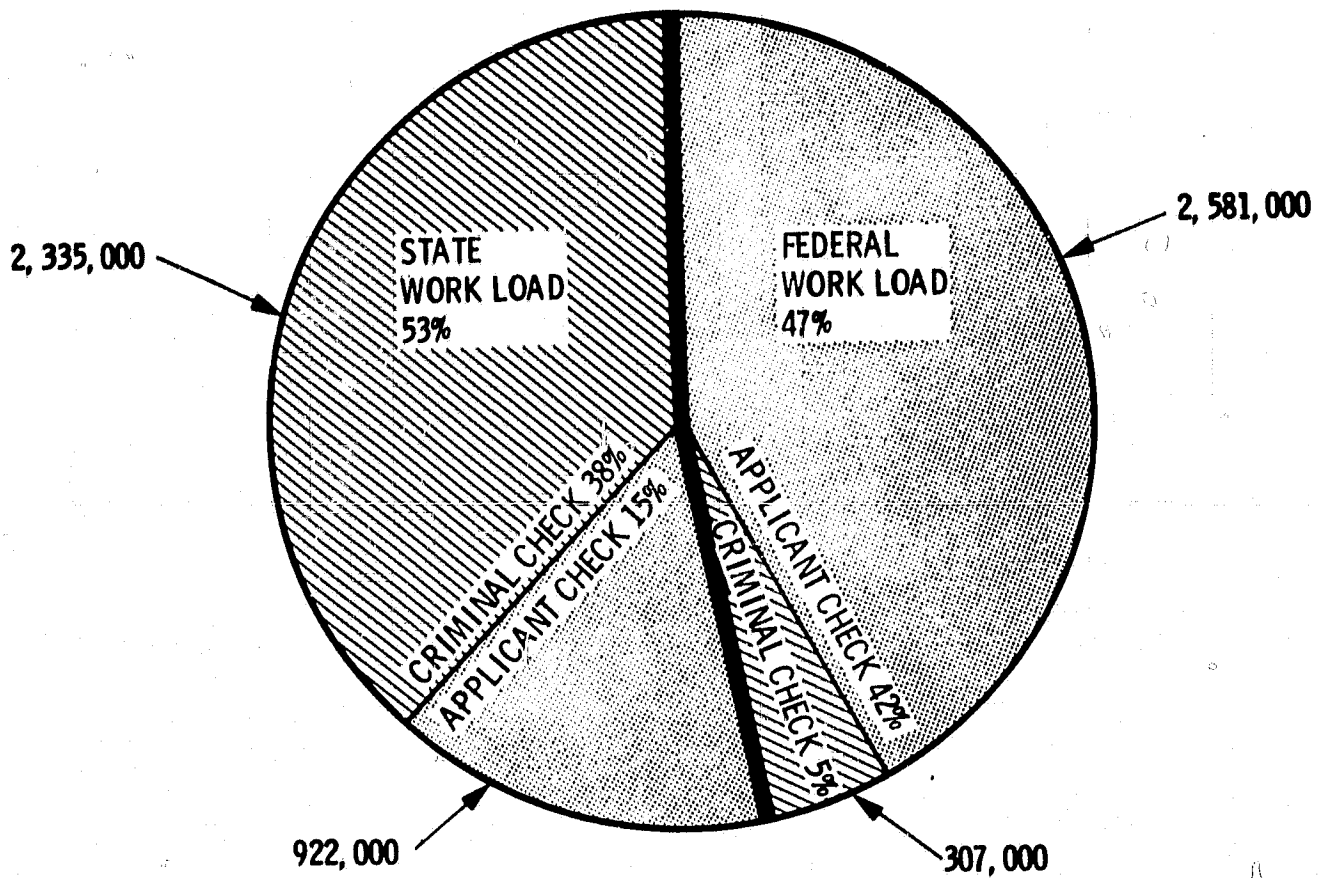
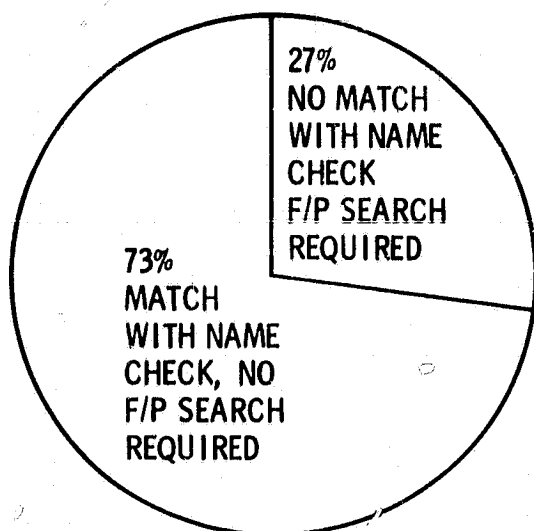
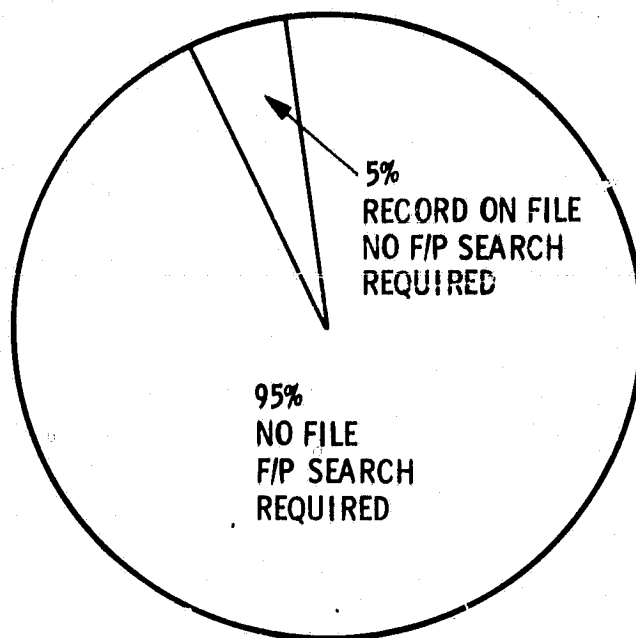


Figure 2-1. Total Identification Division Work Load Activity by Source

CRIMINAL SUBMISSIONS 43%*



APPLICANT SUBMISSIONS 57%*



***% OF TOTAL SUBMISSIONS
TO IDENTIFICATION DIVISION**

Figure 2-2. Breakdown of Work Load by Function

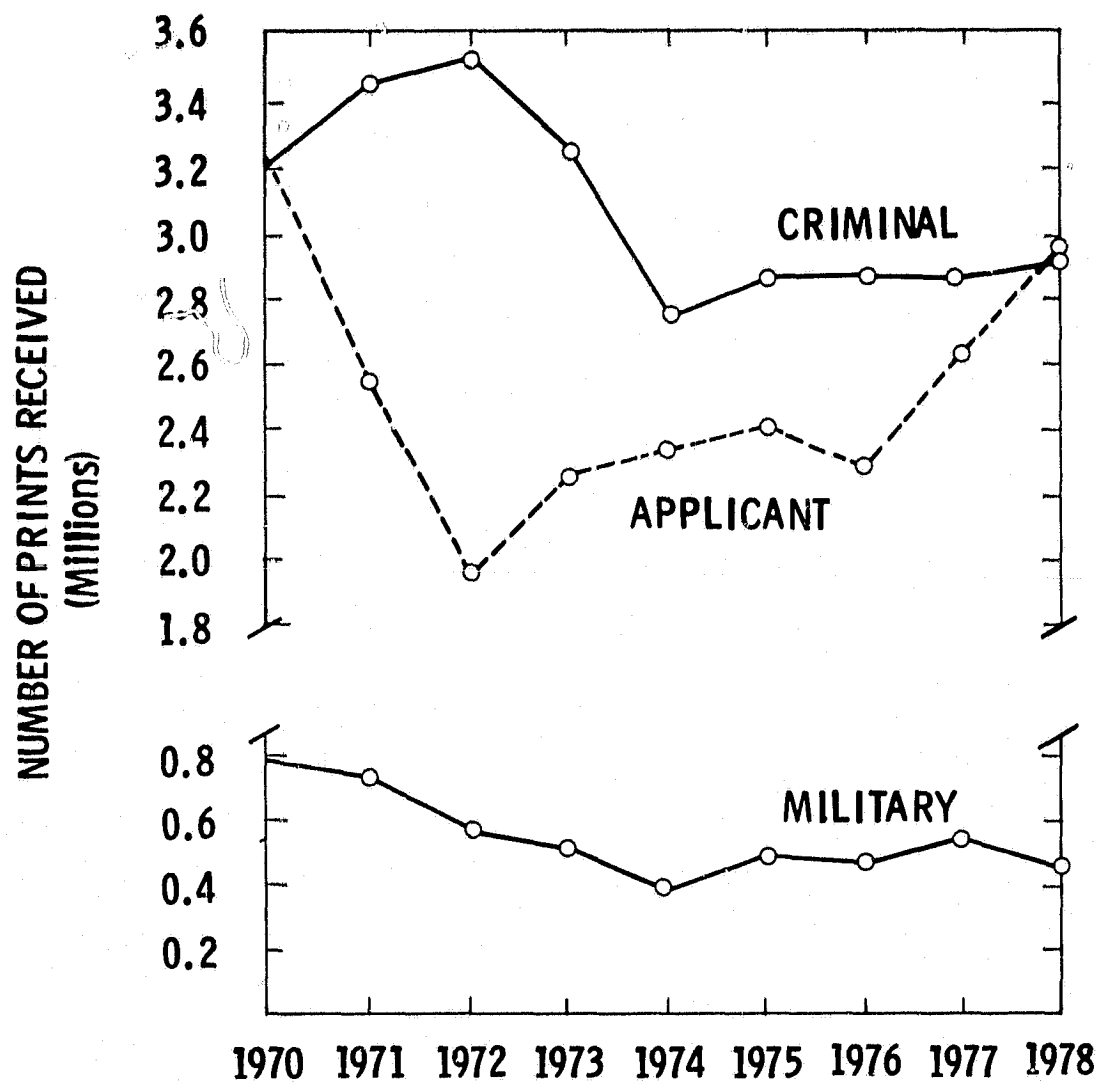


Figure 2-3. Total Fingerprints Received by the Identification Division by Year

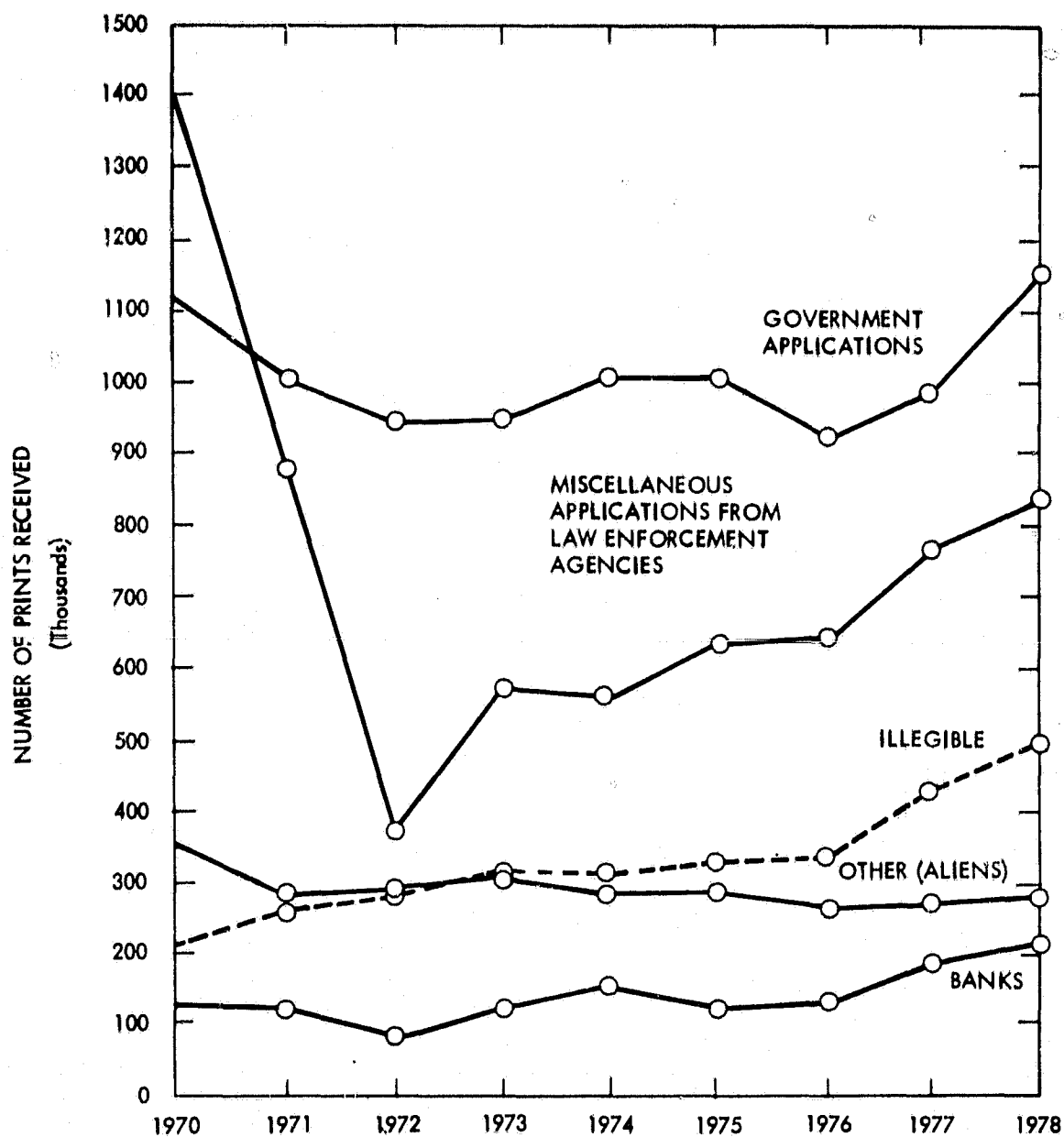


Figure 2-4. Total Fingerprints Received in "Other" Category by Year

that their hiring and induction rates have been constant and are expected to remain so. This trend toward increase in government-generated applications is discussed in Section V.

Yet another breakdown of the work load of fingerprints for search is shown in Table 2-3. In this table the fingerprints remaining after the removal of cards judged to be illegible are shown under the appropriate classifications. The fingerprints of aliens that comprised 5.5% of the 1970 total in Table 2-2 are shown in this table to have declined between 1970 and 1979 to a negligibly small number, corresponding to a change in policy with respect to the processing of fingerprints from aliens.*

E. CONCLUSIONS

The foregoing discussion suggests:

- (1) There is no strong bias toward federal or state use of the system.
- (2) Federal submissions result in many more fingerprint checks than record changes because of the large difference between applicant and criminal submissions.
- (3) State submissions produce many more record checks than fingerprint identifications because of the large difference between applicant and criminal submissions.
- (4) Non-criminal justice use of the Identification Division by federal agencies is a large percentage of the total work load and a large percentage of total fingerprint checks.
- (5) Non-criminal justice use of criminal justice information by states is small in relation to their total use.
- (6) A great majority of employment and licensing checks require a full fingerprint search.

1. Classification of Criminal versus Non-criminal Submissions

An important difference between the criminal and non-criminal components of the work load lies in the character of the determinants of the volume of submissions in the two categories. The submissions classified as "criminal" are entirely determined by the actions of local,

*This change called for the collection and storage of alien fingerprints without the accompanying search through criminal files. During the mass influx of Cuban nationals in the spring of 1980, the Division undertook fingerprint search of those arriving in Florida at the request of the Immigration and Naturalization Service which financed the additional labor required.

Table 2-3. Fingerprints for Search 1970 to 1979*

Year	Criminal	Military**	OPM***	Alien@	Banks	Misc.# from "Other Government Law Enforcement Agencies	Total
Number in Millions							
1970	2.981	0.652	0.295	0.220	0.123	1.408	6.540
1971	3.195	0.610	0.274	0.197	0.117	0.878	5.976
1972	3.239	0.436	0.255	0.201	0.083	0.380	5.246
1973	2.880	0.382	0.252	0.091	0.188	0.576	4.951
1974	2.438	0.301	0.310	0.001	0.152	0.566	4.416
1975	2.468	0.349	0.279	0.001	0.119	0.633	4.450
1976	2.474	0.311	0.200	0.001	0.128	0.547	4.425
1977	2.477	0.438	0.209	0.001	0.191	0.766	4.795
1978	2.428	0.385	0.203	-	0.213	0.822	5.057
1979	2.428	0.385	0.203	-	0.242	0.794	4.761
Percentages							
1970	54.6	10.0	4.5	3.3	1.9	21.5	100##
1971	53.5	10.2	4.6	3.3	2.0	14.7	100
1972	53.5	8.3	4.6	3.8	1.6	7.3	100
1973	58.2	7.7	5.1	1.8	2.4	11.6	100
1974	55.2	6.8	7.0	-	3.4	12.8	100
1975	54.5	7.7	6.1	-	2.6	13.9	100
1976	55.9	7.0	4.5	-	2.9	14.6	100
1977	51.7	9.1	4.4	-	4.0	16.0	100
1978	50.2	7.6	4.8	-	4.2	16.4	100
1979	51.0	8.1	4.3	-	5.1	16.7	100

*Excludes "Illegible" and "Deceased."

**Includes Army, Air Force, Navy, Marine, U.S. Coast Guard.

***Includes "Security."

@Fingerprints of aliens are searched only in special circumstances after 1973.

#Includes state licensees and state & local government applicants.

##Columns do not add to 100% because fingerprints of deceased persons for search are not included and because of rounding errors.

state and federal law enforcement agencies in the process of investigating crime and apprehending criminals. The volume of such submissions then depends directly on both the numbers of crimes* and the level of activity in the law enforcement agencies. Neither kind of activity has any direct effect on non-criminal submissions, except for the presence among these of a relatively small number of law enforcement employees.

2. Federal and State Components

As demonstrated in Figures 2-3 and 2-4, the fingerprint identification services of the Division are supplied in roughly equal amounts to federal agencies on the one hand and state and local agencies on the other. However, the distinction between criminal and non-criminal submissions are markedly different in the two cases, with federal criminal submissions comprising only 3% of the total, compared to state and local criminal submissions at 40% of the total. Furthermore, in addition to the approximately 6 million fingerprint submissions processed annually in the Division, an additional 4 million pieces of correspondence received are concerned either with updates of criminal histories on file in the Division from state and local agencies or with state and local queries on those histories.

3. Record-Keeping Services

The figures quoted above indicate how large a component of the work load consists of record keeping, as distinguished from fingerprint identification per se. Not only do the 4 million annual correspondence/name checks require record-keeping activities, but so also do the additional 6 million fingerprint submissions. The estimated proportion of criminal identifications completed without fingerprint search is 60%, and an additional 5% of applicant identifications are completed by a search of records without fingerprint search (but with identification verification based on fingerprint comparison).

*Various technical distinctions between crimes included in an individual's criminal history and those not included are reflected in the tabulations of the Uniform Crime Reports of the FBI, published annually as Crime in the United States. These are not relevant to the discussion here.

SECTION III

DRIVERS

A. IDENTIFICATION OF THE DRIVERS OF CHANGE IN THE WORK LOAD OF THE IDENTIFICATION DIVISION

As previously discussed, a driver of work load change is a potential trend, event, or legislative action that can produce a change in the amount or type of fingerprint submissions to the Identification Division, or a change in the way the work is disseminated from the Division, e.g., potential trends that increase or limit access to the system.

In the subsequent discussion of the impact of different drivers on the work load of the Division (Table 3-1), the list of drivers is rather arbitrarily divided into a set of different classes. These are:

- (1) Projections of historical trends.
 - (a) Economic trends.
 - (b) Demographic trends.
 - (c) Trends in political concerns (embodied in legislative/judicial actions).
 - (d) Technological trends.
- (2) Anticipated/possible events.
 - (a) Legislative/judicial actions.
 - (b) Domestic and international events.

As explained in Section I, a well-defined methodology permits projections of the kinds listed under Category (1). For these projections historical data exist and can be correlated with trends in the work load of the Division for the same period. The projected increases and decreases in the work load can thus be offered with some security as to their accuracy and reliability.

By contrast, the actions and events that appear in Category (2) cannot be treated by the technique of projection. Instead, historical data have been used to acquire estimates of possible upper and lower bounds, and the probabilities (where they are discussed) are based on a reasonable consensus of subjective opinion quite different from the statistical calculations used for trends in the first category.

The selection of the actual drivers used here was based on a set of criteria derived in the course of the study. In the list of these criteria that follows, it is apparent that a mixture of theoretical and practical grounds were used.

Table 3-1. Summary of Drivers and Effects

TYPE OF DRIVER	DIRECTION OF INDUCED CHANGE IN WORK LOAD				UPPER (LOWER) BOUND OF EFFECTS	COMMENTS
	RECORD KEEPING	F.P. SEARCH	CRIMINAL SUBMISSIONS	APPLICANT SUBMISSIONS		
ECONOMIC TRENDS						
STAGNANT ECONOMY		-	+	-	PRESENT RATE OF GROWTH MAINTAINED (1.7% PER ANNUM); UPPER BOUND	
FISCAL CONSTRAINTS: FEDERAL						
HIRING FREEZE	-	-		-	-1 MILLION; LOWER BOUND	
REDUCTION IN LEAA FUNDS	+	+	+		VARIES BY STATE	LEAA APPROPRIATIONS CUT-OFF IN PROCESS; SEE TEXT
FEEs FOR APPLICANT SERVICES OF IDENT. DIVSN.	-	-	-	-	-1 MILLION; LOWER BOUND	SEE TEXT
TIGHTER CRITERIA FOR SUBMISSIONS	-	-	-	-	-0.7 MILLION; LOWER BOUND	
FISCAL CONSTRAINTS: STATE						
HIRING FREEZE	-	-		-	-1 MILLION; LOWER BOUND	
REDUCED FUNDS FOR IN-STATE I.D.	+		+		VARIES BY STATE	SEE TEXT

Table 3-1. Summary of Drivers and Effects (Cont'd)

TYPE OF DRIVER	DIRECTION OF INDUCED CHANGE IN WORK LOAD				UPPER (LOWER) BOUND OF EFFECTS	COMMENTS
	RECORD KEEPING	F.P. SEARCH	CRIMINAL SUBMISSIONS	APPLICANT SUBMISSIONS		
DEMOGRAPHIC TRENDS						
INCREASE IN MEDIAN AGE	-	-	-	-	REDUCTION IN ALL ACTIVITIES 0.5% PER ANNUM; LOWER BOUND	
SLOWER GROWTH OF POP.	-	-	-	-	REDUCTION IN ALL ACTIVITIES 1% PER ANNUM; LOWER BOUND	
MOBILITY DECLINE					DATA DO NOT PERMIT PROJECTION	SEE TEXT
LEGISLATIVE/JUDICIAL ACTIONS						
TRENDS IN POLITICAL CONCERNS						
PRIVACY OF PERSONAL INFORMATION	+					
FREEDOM OF INFORMATION	+				+15,000 PER ANNUM; UPPER BOUND	
SPEEDY ARRAIGNMENT					VARIES BY STATE	SEE TEXT
DECriminalIZATION OF VICTIMLESS CRIMES	-	-	-	+	EFFECTS NEGLIGIBLE	SEE TEXT
LEGALIZATION OF CASINO GAMBLING	+	+	+	+	NOT ESTIMATED	SEE TEXT

Table 3-1. Summary of Drivers and Effects (Cont'd)

TYPE OF DRIVER	DIRECTION OF INDUCED CHANGE IN WORK LOAD					UPPER (LOWER) BOUND OF EFFECTS	COMMENTS
	RECORD KEEPING	F.P. SEARCH	CRIMINAL SUBMISSIONS	APPLICANT SUBMISSIONS			
LEGISLATIVE/JUDICIAL ACTIONS (CONT'D)							
ANTICIPATED LEGISLATIVE/JUDICIAL ACTIONS							
INCREASED IMMIGRATION QUOTA	+	+		+		+550,000 APPLICANT SUBMISSIONS/YEAR	
INCLUSION OF WOMEN IN DRAFT						NOT ESTIMATED	SEE TEXT
INCREASE IN FOREIGN WORKERS	+	+		+		+65,000 APPLICANT SUBMISSIONS/YEAR	
POSSIBLE LEGISLATIVE ACTIONS							
NATIONAL GUN REGISTRATION	+	+	-	+		+2 MILLION PER ANNUM; UPPER BOUND	100 MILLION "FIRST YEAR" REGISTRANTS, NEW AGENCY LIKELY
NATIONAL I.D. SYSTEM	+	+		+		+2 MILLION PER ANNUM; UPPER BOUND	220 MILLION "FIRST YEAR" REGISTRANTS NEW AGENCY LIKELY
CHANGE IN STATE LICENSING	-	-		-		EFFECTS NEGLIGIBLE	
INTERSTATE I.D. INDEX	-		-			5 TO 10% REDUCTION IN CRIMINAL SUBMISSIONS	

Table 3-1. Summary of Drivers and Effects (Cont'd)

TYPE OF DRIVER	DIRECTION OF INDUCED CHANGE IN WORK LOAD					UPPER (LOWER) BOUND OF EFFECTS	COMMENTS
	RECORD KEEPING	F.P. SEARCH	CRIMINAL SUBMISSIONS	APPLICANT SUBMISSIONS			
POSSIBLE EVENTS							
CIVIL DISORDER, TERRORISM	+	+	+	+		NOT ESTIMATED	SEE TEXT
OUTBREAK OF WAR	+	+	+	+		+5 MILLION TOTAL; +0.3 MILLION IN A MILITARY DRAFT; UPPER BOUND	
TECHNOLOGICAL TRENDS							
NEW NON-FINGERPRINT I.D. TECHNOLOGIES		-				+2 MILLION; UPPER BOUND	
ELECTRONIC "MAIL"	+	+	+	+		NOT ESTIMATED	
IMPROVED INFORMATION SYSTEMS	+	+	+	+		NOT ESTIMATED	
OTHER							
1984 OLYMPICS	+			+		+25,000 NAME CHECKS; UPPER BOUND	

1. Criteria for the Selection of Drivers of Change in the Work Load

The criteria identified for the selection of drivers of change in the work load are:

- (1) An observable historical trend that has a (statistically) verifiable connection to components of the work load.
- (2) An observable trend that has a deducible connection to components of the work load but may lack directly quantifiable components and on which there is consensus about its projection.
- (3) An action or event that has not yet occurred and cannot be projected from observed trends but has been the subject of wide public concern and is related to components of the work load.
- (4) An action or event that has not occurred and cannot be projected from observed trends but is a subject of concern to staff members of the Identification Division in its implications for the work load.

B. DISCUSSION OF THE DRIVERS OF CHANGE IN THE WORK LOAD

1. Economic Trends

For the past several years, the national economy has displayed two overriding characteristics: a steadily increasing rate of inflation and a slowing in the rate of economic growth in real terms.* Relatively high rates of unemployment have also appeared, along with marked shifts in the industrial structure.

The result of the industrial shift has been to decrease availability of entry-level jobs in Blue Collar industries (manufacturing, construction) and thus decrease the rates of employment among young entrants to the labor force.

These trends have effects on the work load through different mechanisms. Crime rates, which are closely connected to rates of criminal submissions, are largely determined by property crimes, which make up about 90% of the total crimes in the United States. Property crime in turn is directly related to both the quantity of property in the society (money and objects) and the value of the property. Although the slowing of real growth will reduce the growth of real property, inflation will increase the money value of what exists.

*The Gross National Product (GNP) has increased steadily in terms of (current) dollars, but the increase is much reduced when account is taken of inflation and the amount is expressed in so-called "real" dollars.

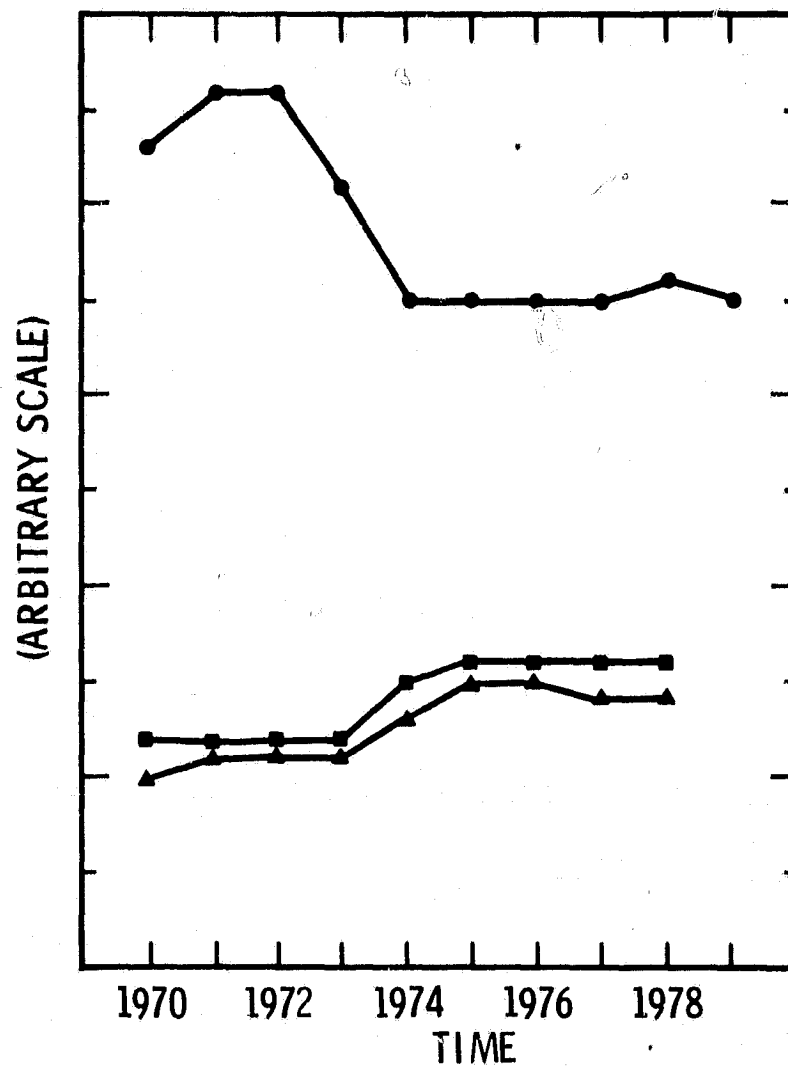
Moreover, the distribution of wealth, including real property, is concentrated. A relatively small fraction of individuals holds a disproportionately large fraction of total wealth. Thus, incentives remain for property crime even in the presence of a slower growth of wealth. Furthermore, the large numbers of young people without employment or employed at very low wages increase the likelihood that rates of property crime and thus criminal submissions will continue to grow at their present rates. Criminal submission statistics over a ten year period are shown in Figure 3-1.

The projection of a stagnant economy for the foreseeable future will also influence projections of non-criminal submissions to the Identification Division. The slower rate of growth in the economy as a whole and the static (and occasionally increasing) unemployment rate will inevitably reduce the number of new jobs in both the private and public sectors and thus the rate of growth in the number of applicant submissions. In the private sector, banking employment has been the major source of applicant submissions. As shown in Figure 3-2, Applicant Submission Statistics, the earlier rapid expansion of employment in banking has slowed as the establishment of new banks and new bank branches has approached saturation even in the new suburban and exurban population centers. (Government sector employment is treated in detailed discussions below.) Observable economic and political trends effectively rule out any large increases in federal civilian employment in the near future and suggest that the present level is likely to be maintained, with the exception of defense-related employment discussed below.

The result of the effects outlined above is judged to project a continuation in the present overall rate of growth in the work load as an upper bound to possible increases. No lower bound has been estimated. The effect on the distribution of the work load between criminal and non-criminal submissions is likely to still further increase the proportion of activities concerned with criminal identification and criminal history record keeping, but since a smaller fraction of criminal identification requires actual fingerprint search than does non-criminal identification, a decrease in the number of fingerprint searches may be observed.

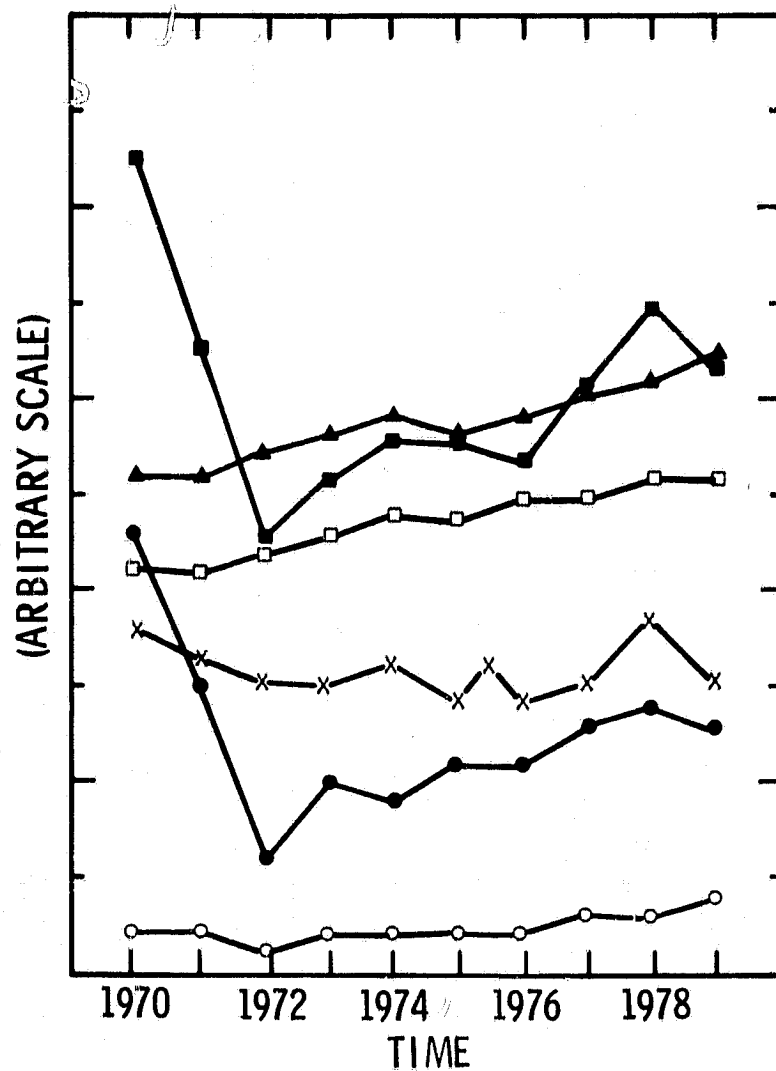
2. Other Economic Trends

a. Constraints on Federal Expenditures. Federal expenditures for "defense" have provided the major channel for government stimulus to the private sector. These expenditures are a present focus of national interest, and one in which economic concerns are to some extent in conflict with political concerns. Although a relatively large fraction (62%) of all employment security checks that make use of the services of the Division have come from the Department of Defense and its contractors in recent years, the present uncertainties about defense expenditures prevent any confident judgments about



- CRIMINAL SUBMISSIONS
- UNIFORM CRIME REPORTS
- ▲ CRIMES AGAINST PROPERTY

Figure 3-1. Criminal Submission Statistics



APPLICANT SUBMISSIONS:

- LAW ENFORCEMENT
- FEDERAL GOVERNMENT
- ▲ BANKING
- × TOTAL

EMPLOYMENT

- FEDERAL
- TOTAL

Figure 3-2. Applicant Submission Statistics

future impacts. Only a lower bound, corresponding to the minimum of such submissions over the recent past, could be confidently assigned if that figure were available.*

b. Constraints on Federal Employment. Job freezes of one kind or another in federal employment have appeared from time to time, and after a period of extremely rapid growth in the 1960's in which the number of federal/civilian employees increased by 25%, the rate of increase has slowed and the total number has now been relatively stable at about 2.9 million since 1970.

c. Reduction in Federal Support of LEAA. Cutbacks in the funding of the Law Enforcement Assistance Administration (LEAA) now in process can be read as evidence of the demise of this federal agency. Its appropriations have been used to improve the overall quality and capabilities of state and local law enforcement agencies, and in some states the funds from LEAA grants supplied incentives for state investment in large-scale automated identification services at the state level. One result of such programs has been the acquired ability of some states to carry out parts of the record-keeping and identification services that would otherwise have been supplied by the Identification Division. This support by LEAA to the states thus reduced the work load of the Division.

The effect of the withdrawal of federal funds for such state systems is not likely to have large immediate impact on the present patterns of the work load for several reasons. The LEAA grants have already been used to make the necessary investments in states that have developed automated identification systems of their own; and although the use and maintenance of those systems will require continued state expenditures, they will not require the large-scale expenditures associated with the installation and start-up operations of a newly automated system. It is thus concluded that the states where well-developed identification systems for law enforcement are in place will continue to make use of these systems at the same level and will not increase their submissions.

Those states that have not developed information and identification systems capable of filtering out submissions that would otherwise have gone to the Identification Division are much less likely to do so in the absence of federal funds for that purpose. However, some of these states already use the services of the Division to the maximum extent possible: as a replacement for all in-state identification services. Their submissions thus cannot increase, although plans they may have begun with the expectation of LEAA funding will obviously be postponed, if not abandoned.

*Statistics on the sources and distribution of the work load that have been made available for this study do not include the necessary breakdowns.

The major impact on the work load may be expected to come from states in which fully-developed information and identification systems have been in process but are not yet fully operational to the degree achieved in other states. In the 1979 study for the Congressional Office of Technology Assessment, assessment was made of in-state capability and use of criminal history information and centralized criminal information services. Of the 43 states included, 14 were found to be "high-grade users," and 13 to be "low-grade users." Of the remaining 16, six were noted to be "currently considering implementing upgrades" of their in-state systems. This last class of states are likely to be the ones in which the cutbacks of LEAA funds will result in increases in the work load of the Division, under the assumption that their growing needs for services were the basis for the planned upgrading of their own systems, plans that may now be unusable without the LEAA funds. No secure estimate of this possible increase can be made.

d. Limits on the Budget of the Identification Division. Two responses are available to the Division itself if it becomes necessary to reduce its work load in the case where budgeting for its operations is insufficient to maintain the existing volume of services.

Introduction of Fees for Services. Since under existing policy services of the Division are generally provided without charge to users, the imposition of fees is a possibility for certain classes of users with needs that might be judged less relevant to the public good, thus supplying less justification for the use of public funds. Examples of such users are relatively scarce, and in any case constitute a very small fraction of the current work load. Perhaps the single case in which fees might be judged appropriate is the set of applicant submissions for the licensing of certain occupations that are required in very few states. Examples of such occupations are those of cosmetologist, barber, dry cleaner, and holder of "massage parlor permit" (required in California), driving school staff member (required in Georgia), and real estate salesperson (required in a few states). Unfortunately no direct measure of the volume of such applicant submissions is available in existing data collections, but it is clearly small if not negligible.

If, on the other hand, a policy of fees for all services supplied for applicant submissions should be instituted, the upper bound for the reduction in volume could approach the present volume of such submissions, which lies close to one million submissions annually. This high a volume is however extremely unlikely, and total effects on work load are judged to be necessarily very small.

Introduction of New Criteria for Submissions. As noted in Section II in the discussion of the types of services provided by the Division, two changes in the criteria for submissions to the Identification Division were introduced in the 1970's. One change was the redefinition of "crimes" for which fingerprints submissions of

those arrested and charged had been required. The other was a regulation requiring that only those non-federal applicant submissions for which state laws required fingerprint identification could be submitted. The immediate effects were a reduction of almost one-half million criminal fingerprint submissions from 1973 to 1974 and a reduction of one-half million applicant submissions from 1971 to 1972. However, by 1978 enough states had passed the required laws that the number of non-federal applicants was close to the original 1971 figure of more than 800,000. Criminal submissions have, however, remained close to the reduced figure of 1974, 2.8 million, probably because the number of crimes increased between 1974 and 1979 at a somewhat slower rate than earlier.

Using the reductions in the volume of submissions that followed the earlier changes in criteria yields an upper bound estimate of close to one million. However, the achievement of a reduction of such a magnitude is relatively unlikely, and a more reasonable estimate of the reduction that could be achieved through a change in criteria for submission of fingerprints would lie closer to 250,000, restricted to non-federal applicant submissions on principles very much like those discussed for the imposition of fees for identification services.

e. Constraints on State Expenditures. The much discussed taxpayer revolt at the state and local level began with the 1978 passage of Proposition 13 in California, which set limits on the real estate taxes that could be imposed by local authorities. The observed result there has been a tightening of the state budget, as discretionary funds formerly available from state sources had to be diverted to local authorities to close the fiscal gap. A subsequent proposal to limit the income-taxing authority at the state level was defeated. Without the strong leadership of the anti-tax program that appeared in California no comparable changes in state and local taxing policies have actually been enacted elsewhere, but support for such programs of tax reduction has received much attention in other states.

Even without a cutback in tax revenues, the budgets of states and local municipalities are not judged to be increasing at the same rate as inflation, and fiscal crisis has been a continuing problem in many regions over the recent past. Two possible effects of tighter state and local budgets on the work load of the Identification Division are listed below.

Constraints on State and Local Government Employment. The number of workers employed by state and local governments increased by 60% between 1960 and 1970, but has remained relatively constant at about 12.8 million over the past several years. Constraints on state and local budgets are likely to prevent further increases at the national level, although possible shifts of population away from the older states of the North and the Northeast and into the Sunbelt may cause a redistribution of state and local government employment, which is closely linked to population. As a result, even with static or

declining total national employment in state and local government, new employees may be taken on in some areas while employees in other areas are reduced. There is no evidence for an appreciable increase or decrease in applicant submissions for these employees, since all related observed trends are minimal.

Reduction in the Budgets of State Identification Systems. As discussed above, the maintenance and operation of state criminal information systems that are comprehensive and automated to a degree that permits state users to receive needed information in-state and without submissions to the Identification Division may pose some fiscal problems in the absence of LEAA funds. Constraints on state budgets are likely to have similar results. One severe problem for the state and local agencies concerned is the absence of reliable information and analysis that would indicate the value of such information and its accessibility. Without reliable estimates of such values, decisions on expenditures for state systems are likely to be postponed and it is doubtful they will receive vigorous positive action.

Cutbacks in state funds for such services are sure to result in an increase in the processing of criminal submissions and criminal history record keeping in the Division. The effects on applicant submissions are likely to be much smaller, but neither kind of increase can be estimated securely because of the diversity of capability and policy among the different states.

C. DEMOGRAPHIC TRENDS

1. Slower Growth of U.S. Population

Rapid increases in population characterized the period from 1950 to 1970, but the rate of growth has slowed appreciably since then. A principal cause of the slowdown has been the declining birth rates of the recent past, and these in turn have been attributed to a widespread change in the social and economic patterns affecting family formation, the presence of women in the labor force, the availability of birth control technologies including legalized abortion and others.

Inevitably, a slower growth in population results in a slower growth in the use of services to identify individuals, and thus to a slower rate of increase in the work load of the Identification Division. The actual magnitude of the effects is difficult to estimate directly. No actual decrease in the work load can be expected as long as the population is slowly increasing or stationary. However, the rate of increase in the work load can be expected to reflect more or less directly the slowing increase in population, which now amounts to an increase of less than one percent per annum. Of much greater importance for estimating the impact on the work load are the components of existing and future population trends.

2. Increasing Median Age

Median age in the United States reached a low at the end of the 1960's, reflecting the cumulative effects of the post-war baby boom. It has increased since then, and is not expected to decrease again in the foreseeable future. The implications of this trend toward an older population are most critical for criminal submissions, since the highest rates of arrest by age group are concentrated among younger people. For Crime Index offenses,* 41% of those arrested in 1978 were under the age of 18, 58% of those arrested were under 21 and 72% of those under 25. The population aged 14 to 24, which has been an increasing proportion of total population over the past 20 years, will become a declining proportion in the future, with the result of a lowered crime rate and thus reduced annual volume of criminal submissions.

The present (1978) proportion of people aged 14 to 24 is 20.8% of the population, and that is projected to decline to about 17% in 1985 and to less than 15% in 1990. Assuming that the decrease in the numbers of young people in the population may be directly reflected by a decrease in the crimes committed by young people (rather than by a redistribution among people of different age groups of the same volume of crimes), the 5% decline in the 14-to-24-year-old population between 1980 and 1990 would produce a 4% decrease in total crimes committed in that period, which amounts to less than 0.4% per annum. The total effects of increasing median age on both criminal and applicant submissions and record keeping is thus likely to lie well below 1% per annum.

A similar effect for applicant submissions can be deduced for a population with declining proportions of entrants to the labor force.

Neither effect on criminal or on applicant submissions can be estimated directly, but both are likely to produce a small overall reduction in the work load.

3. Changes in Mobility

Different kinds of movements of population have different consequences for the work load of the Identification Division.

Movement out of the older urban centers of the North and the Northeast to suburban and exurban residential communities in the same area has been a continuing trend since the 1950's. Recent data that would confirm the effectiveness of new programs designed to attract and retain middle-income families in the cities are difficult to

*Crime Index offenses are those statistically recorded in Crime in the United States, Federal Bureau of Investigation, annual publication.

interpret securely, but data from the late 1970's do not appear to indicate a reduction in urban crime rates and do show a greater proportional crime increase in areas outside the older larger cities. No projection of these effects has been attempted.

Increased movement to the states of the Sunbelt, including not only the southeast and south central regions but the whole of the Pacific Coast has been observed through most of the 1970's. Predicted increases in the costs of energy for residents in colder regions that are lacking in oil and gas resources are likely to have increased this trend, but data will not be available until the results of the 1980 Census are published.

The effects of interregional mobility on the work load of the Division are directly dependent on the particular states involved. As discussed elsewhere, the variability state-to-state of submissions to the Division implies that analysis would have to be carried out state by state to determine whether the total effect of this kind of population mobility will increase or decrease the work load.

D. LEGISLATIVE/JUDICIAL TRENDS

1. Trends in Political Concerns Embodied in Legislative Actions or Judicial Decisions

a. Privacy of Information about Persons. Widespread concern about the use of information on individuals for non-criminal intelligence operations led to the passage of the Privacy Act of 1974 and to suits brought in federal courts by individuals to prevent the maintenance and dissemination of their records in criminal history files. (See Appendix A, *Menard v. Saxbe*, *Tarleton v. Saxbe*.) The results have been a change in regulations governing the retention of fingerprints in the criminal files of the Identification Division and the dissemination of information on undisposed criminal charges against individuals. The principal impact of these changes has been an increase in the record-keeping activities of the Division of unknown magnitude.

Continuing public concern about the issues of the privacy of information held by government agencies about individuals is not judged likely to lead to new regulations but to manifest itself in greater and more thorough monitoring of existing practices to insure that violations of existing laws and regulations are not committed. Little impact can be expected on the work load from this trend, but internal processing procedures may become more complicated.

b. Freedom of Information. The Freedom of Information Act requires that all government agencies must supply copies of their records to any individual who requests such information. Clearly, conflicts exist between this act and the laws and regulations governing privacy, as discussed above. In particular, regulations following the passage of the Freedom of Information Act have allowed

the Department of Justice to exempt the whole system of criminal histories and identification records from public disclosure.

Since 1976, the Department of Justice has permitted any individual to review the criminal information maintained about him and to initiate corrections of that information. The number of requests from individuals for this and other purposes was 4,330 in 1978 (the first year for which a count is available), increasing to 7,619 in 1979. An upper bound of 15,000 such requests per annum has been projected.

c. Speedy Arraignment. The constitutional guarantee of speedy trial has been interpreted in judicial decisions to apply to the presentment of charges after arrest, so that individuals may not be held for long periods without court hearings that lead to arraignment. The present relatively long period of time between a request for information in criminal history files of the Division and the receipt of that information by mail makes such requests by state and local agencies of the criminal justice system unlikely to be satisfied in the required time. Thus, it is likely there will be no change in the volume of such requests, since the identification system in the Division is currently not used in the arraignment process. The impact of the electronic communications to and from the Division on the arraignment processes was not analyzed because electronic communication outside the Division was not part of the AIDS III evaluation.

d. Decriminalization of "Victimless Crimes." Since not every present violation of state and local laws on such victimless offenses as gambling, prostitution, drunkenness, vagrancy, disorderly conduct and the use and possession of certain drugs now requires the submission of fingerprints and criminal history records to the Identification Division, the possible decriminalization of some of these offenses can have little effect on the work load. An exception is the legalization of casino gambling, discussed below.

Legalization of Casino Gambling. The legalization of casino gambling has become a recent prospect in those states in the Northeast (New York, New Hampshire, Delaware, District of Columbia) in which the combination of the decline in formerly active tourist resorts and the need for new sources of state revenue make the example of Nevada somewhat attractive. New Jersey is the only state other than Nevada to have enacted the necessary legislation, and in New Jersey legalized casino gambling is restricted to the single community of Atlantic City. Comparison of the criminal and applicant submissions of Nevada and New Jersey over the relevant period (1978, 1979) do not lead to any clear conclusions. Nevada has had the highest rates per capita of both criminal and applicant submissions during the 1970's, but New Jersey submissions in those categories have not shown an identifiable trend that could be associated with gambling.

On common-sense grounds, it is reasonable that states where gambling is legalized would also require certain employees to undergo applicant identification procedures, and that this would increase the applicant submissions to the work load. Whether or not the observable higher crime rates in Nevada that correspond to high rates per capita for criminal submissions would necessarily accompany the legalization of casino gambling cannot be decided on the basis of available information.

2. Legislative Actions and Judicial Decisions That May Occur

a. Increase in the Immigration Quota. An increase in the U.S. immigration quota of from 200,000 immigrants to 750,000 has been discussed, increasing the present quota by more than one-half million per year. This increase would be directly transmitted in the form of fingerprint identification requests to the work load of the Division.

"Foreign students" now constitute a special category of non-immigrant entrants to the United States whose fingerprints are also submitted, as are those of all resident aliens. Facing declining enrollments in the 1980's, U.S. colleges may step up their current efforts to recruit students overseas. Such efforts have recently resulted in an increase of foreign students of more than 50% over the time period 1975 to 1978, when foreign student enrollment reached a figure of close to 250,000. An estimate of 500,000 per year for foreign students would not be unreasonable, but a large fraction of these, as many as one half, may be accounted for as immigrants under the increased immigration quota.

The estimate of the upper bound of the total increase possible from increased immigration and increased residence in the United States of foreign students is judged to be 800,000 submissions per year.

b. Increase in "Foreign Workers." At present only U.S. immigrants are legally permitted to hold paid employment, but some pressures on the part of employers in agriculture and in industries requiring large number of unskilled or semi-skilled workers may result in the restoration of the "bracero" program that brought approximately 65,000 foreign workers to the United States from 1949 to 1964.

c. Inclusion of Women in Possible Military Draft. A suit now pending in the federal court system will result in a decision on the inclusion of women in the current program of draft registration. If that decision does require the registration of women, they would presumably be included in the event of a draft of civilians for military service. However, no such draft is currently in force, and its occurrence cannot be projected securely. Moreover, the drafting of women would not increase the total number of draftees whose fingerprints would be submitted but only redistribute the number among women and men. No effect on submissions would occur.

d. National Gun Registration. Congressional bills to require the licensing of all individual owners of certain kinds of firearms have been proposed over the years, and some are currently pending. Evidence on the likelihood of such legislation is not clear-cut. Various polls of public opinion over the years have shown some indication that a majority of U.S. citizens support such legislation. It is estimated that there are firearms in the possession of 55% of American households.

If a law were passed requiring the submission of fingerprints to the Identification Division, the immediate impact of the estimated 100 million submissions on the Division would be to swamp all other current identification and record-keeping activities. Clearly, a structural change in the organization of the entire national identification system would be required and might lead to the setting up of separate agencies that are different in character from the present structure of the Division.

e. Institution of a National Identification System. The possibility of a national identification system similar to those now in use in the countries of western Europe and Canada would likely require fingerprint identifications. As discussed above, the processing of approximately 220 million fingerprints could not be undertaken in the present organizational structure of the Identification Division and would likely require the establishment of a separate system.

f. Adoption of the Interstate Identification Index (III). Under the provisions of the FBI/LEAA-proposed Interstate Identification Index, the requests from user agencies for criminal history information would no longer be answered by the transmittal of criminal history records, but would instead be answered by information about the state and local agencies where such information could be obtained. The proposed index has been discussed with reference to a location in the NCIC/CCH, located in the FBI but separate from the Identification Division. Inclusion of discussion of the Index here is based on the rationale that records in the Division could be similarly treated and answers to criminal submissions given in the form of "pointers" to state and local records.

A survey of personnel in existing state criminal information systems showed their "overwhelming preference" for such an indexing system, but also indicated the perception of the need for a national center for the indexing function. Twenty-three of the forty states represented in the survey favor the FBI as that agency, although seven of these would prefer a system in which policy control of the indexing agency would be held by the (state) participants.

If the proposed Index or some alternative to it were implemented it would be likely to involve only the more populated urban states that have already undertaken the centralization of criminal record

keeping with some degree of automation. An overall reduction of 5% to 10% in the present level of criminal submissions to the work load is estimated as the result if full implementation of III were to occur. This reduction applies to the Identification Division as well as the NCIC/CCH.

E. EVENTS THAT COULD AFFECT THE WORK LOAD OF THE IDENTIFICATION DIVISION

1. Outbreak of War

The declaration of war by the United States and the necessary mobilization of greatly expanded armed forces and the institution of wartime security measures would increase the work load of the Division by an amount judged to be at least equal to the total impact of World War II, which was approximately 5 million additional fingerprints per year processed over the relevant years. A partial mobilization, i.e., a peace-time draft or a localized war such as the Korean or Vietnam war, is estimated to be accompanied by an approximate work load increase of 300,000 fingerprints from the armed forces. The likelihood of these events has not been estimated.

2. Civil Disorder, Terrorism

Investigations by the Congressional Select Committee to Study Governmental Operations with Respect to Intelligence Activities in 1976 revealed the extent of programs under FBI direction that maintained surveillance of citizens and files of information on them. Subsequent policies have presumably reduced such activities from their earlier high levels in the 1960's and early 1970's. Their re-institution could come however as a response to outbreaks of civil disorder and terrorism. Resumption of such activities is judged to be unlikely for the near future.

F. TECHNOLOGICAL TRENDS

1. Electronic Mail

Electric mail is a technological innovation which is virtually certain to expand greatly during the next decade. Eventually, all large institutions can be expected to rely on electronic mail, including the criminal justice system. Since use of conventional mail now constitutes one of the major limits on the system's response time, the shift to electronic mail can be expected to increase the speed of the system greatly, and this in turn may lead to increased use by the states.

2. Technologies of Identification

The use of techniques based on the biological and medical sciences, hematology, histology and others, has already become a

part of the arsenal of identification procedures at the local level. New developments in these technologies give some promise of providing techniques of identification as secure as the present use of fingerprints that are possibly cheaper and easier to use. "Voice prints" is another example of a developing identification technology with some advantages over fingerprint identification.

None of these possible developments is likely to have much effect on the volume of applicant or criminal submissions for the near future, during the next 10 to 15 years. Their development could, however, be facilitated or impeded by trends that increase or decrease the volume of submissions for fingerprint identification and by trends that raise or lower the costs of that method of identification.

3. Technologies of Storage, Processing and Retrieval of Information

A variety of technologies now available and in process can affect the existing system of fingerprint identification: automation, telecommunications and augmented computer memories at much reduced costs among others. These developments make feasible a national employment identification system, the merging of criminal and civil files, immediate access to central files from distant locations without human intervention and others.

It should be noted that at present, the FBI civil and criminal files are kept in different buildings. The criminal file contains 77 million fingerprint cards and 14.5 criminal history records representing 22 million persons and is searched in response to the 5.8 million inquiries per year. The civil file is rarely searched, usually only to identify unknown dead, and contains 93 million fingerprint cards representing 42 million persons.

Merging the civil and criminal files would be an enormous task. However, merging would enable the efficient searching of both files.

4. Other Trends

a. Natural Disasters. Although the occurrence of large numbers of deaths of unidentified people associated with such natural disasters as earthquakes, floods, hurricanes and volcanic eruptions are not predictable, the overall increase in population of recent years has led to greater populations in areas that are prone to such disasters. For example, a large proportion of the increased population of California is located in the coastal zone between San Francisco and Los Angeles, vulnerable to earthquakes associated with California faults. Similarly, population increases in Florida subject larger numbers of people to the threats of hurricanes originating in the Caribbean. Improved future technologies for monitoring and warning systems may greatly reduce the likelihood of sudden surges to

the work load for the identification of unknown dead. However, the occurrence of any such events and the magnitude of their subsequent effects upon the work load cannot be predicted.

b. The 1984 Olympic Games. Though some uncertainty exists about the future of the Olympic Games, the 1984 games still are planned for Los Angeles. The trend has been toward ever-increasing security requirements, and therefore a prudent expectation is that the Olympics will impose additional burden on the system.

The increase in work load should be at least as great as the increase during the 1980 Winter Games, i.e., 25,000 name checks.

SECTION IV

SCENARIOS

A. STEADY STATE AND TRENDS

The following scenarios were developed from the data obtained. These scenarios are subdivided into those that lead to long term increases, decreases, or no change in the volume of fingerprint submissions. Figure 4-1 shows the type and source of all the scenarios which survived the tests of plausibility as applied by the analysis.

ORIGIN OF SCENARIO	INCREASE	DECREASE	NO CHANGE
HISTORICAL	#1 + #2		
FEDERAL POLICY	NO SCENARIOS, WILL NOT BE A DRIVER		
PROJECTION OF USERS		#5	#4
JUDICIAL	NO SCENARIOS, WILL NOT BE A DRIVER		
TECHNOLOGICAL	#3		

Figure 4-1. Scenario Sources and Driving Effects

1. Premises

The first major premise is that the underlying drivers of the system are technological, economic, social, and political. Technology provides capability which may become more attractive and economically feasible with the advance of the state of the art. Economic issues in turn drive politics which is also driven by social issues.

B. SCENARIOS

Scenarios were classified into three categories; steady state, trends and pulses, because of the differences in their respective effects on the system.

1. Scenarios Leading to Increased Volume

#1 Growth in State-Submitted Applicants since 1972

Referring to Figure 2-1, which indicates the work load volume submitted to the Identification Division during the period 1970 to 1978, there is a pronounced decrease (approximately one million per year) in applicant cards submitted by state bureaus in 1972. This was the direct result of a change in FBI policy. From 1972 on, applicant cards were not accepted unless a state statute required such clearing of the applicants for their intended appointments. Subsequently, the states have been passing legislation which requires applicants for more and more occupations to be cleared by fingerprint checks at the national level. This, in effect, has restored the status quo of 1970.

There are two possible scenarios to project the future:

- (a) With the restoration of the 1970 level, state submissions of applicants will reach steady state, i.e., no increase when the pre-1970 level is reached.
- (b) The growth will continue because of the increased emphasis of the states on clearing applicants and because new requirements emerge for social and political reasons.

#2 Criminal Inquiry Growth of 1.4%

In Figure 2-1, a dramatic decline (approximately 800,000 per year) appears in the rate of criminal inquiries processed by the FBI during the period 1972 to 1974. The cause of the decrease was the change in FBI policy that defined offenses for which criminal fingerprint cards could be submitted.

The cause of the 1.4% growth per year indicated by the data in Figure 2-1 may be attributed to the continuing increase in the crime rates.

#3 Automation of Fingerprint Identification

This scenario is based on the premise that automation of the FBI Identification Division will make full searching of all types of cards presently submitted operationally and economically feasible. Presently, fingerprint cards submitted by the Immigration and Naturalization Service (INS) taken on aliens legally entering the United States are logged in by the Identification Division and sent to the civil file without being searched in the criminal file.* Fingerprint cards submitted by the Department of Defense taken on recruits to the armed forces are given only a name search in the card index section of the Identification Division.**

*Name checks are performed based on a letter inquiry submitted by INS.

**See Volume V.

The reason for limiting the search in the two instances just described is one of convenience. With the automated system proposed for the Identification Division these practices will continue even though fingerprint searching will be automated. This is because the management of the Identification Division chooses to automate the present functions in their present form.

For several years now technology in data processing has developed rapidly and the cost of initiating programs has shrunk. Similarly, the cost of mass storage is rapidly decreasing and experts believe these trends will continue. Volume II discusses the projected reduction in computer mass memory cost over the near term future.

With these technological advances, the economics of any large data processing function such as an automated fingerprint identification system can change dramatically. It is conceivable that technological change will make new or modified functions economically feasible in the foreseeable future. This may be true both at the national and state level.

Scenario #3 leads to the following modifications of the operating concept within the Identification Division:

- (a) New technology and the resultant cost savings will permit the full searching of all inquiries received by the Identification Division, not just those presently being fully searched.
- (b) Real time or nearly immediate communications from all authorized users will become available. The user community will be financially capable of taking advantage of this service or the Federal Government will provide funding for the states.

Scenario #3a would increase the volume of fingerprint searches by causing military and immigrant submissions to be fully searched. Added to this, if the draft is reinstated and if there is a national emergency then the volume of military fingerprint cards will grow, possibly to the levels of the Korean or Vietnam War era (300,000 per annum).

As mentioned in Section III, there is also the possibility of an increase in the immigration quota from its present level of 200,000 persons per year to 750,000. If this coincided with a large influx of refugees such as the Cuban and Haitian boat people of the summer of 1980, increased volume of fingerprint searches would occur.

Foreign students are also a source of fingerprint initiated identifications and are currently processed in the same way as immigrants. These 20,000 additional cards per year would increase the volume of fingerprint (technical) searches under this scenario.

Scenario #3b would lead to the implementation and operation of a nationally distributed data communications service for identification.

This has not been planned for the currently proposed automation system and so is not part of the feasibility study of this proposed system. However, in the second phase of the JPL study, alternatives to the currently proposed automation concept will be studied and these will include nationally distributed data communications (see Volume I of this report, Compendium).

2. Scenarios Indicating No Change

#4 Stasis

Considerable evidence was uncovered by the analysis to substantiate the fact that to a very large extent the identification service of the FBI is not "used" in the normal sense of that word.* For example, many state bureaus and local agencies submit fingerprint cards purely as a matter of procedure without waiting for a response from the FBI. This is undoubtedly due to the long response time of the existing federal identification system, for reasons described in Volume V of this report, Current System Evaluation.

Consequently, no change other than those caused by demographic forces and events such as the growth in the U.S. population through immigration would be expected.

3. Scenarios Leading to Decreased Volume

#5 Interstate Identification Index

The National Criminal Information Center in the Technical Services Division of the FBI is currently conducting a pilot demonstration of the Interstate Identification Index. This pilot project is intended to demonstrate the feasibility of the "pointer" system which would provide the participating states with indexes to criminals who have previous criminal records rather than with the records themselves. This concept can be implemented in two ways: the FBI either providing pointers for all criminals or only for multi-state offenders.

Currently this pilot demonstration project is being considered between the NCIC and the Florida State Identification Bureau on a trial basis.

4. Trends in Work Load Volume

Figure 1-2 in Section I shows the Identification Division Guidelines anticipated work load growth for the period from the

*Reference, conversation with Department of Justice staff.

present to 1993, the date when it is anticipated that the automated identification system will be fully operational. Also shown on Figure 1-2 are the ranges of variability over which the system is required to be adaptable. These are 50% over and 50% under the 29,200 work load anticipated in 1993. In addition, the guidelines specify a mixture of applicant and criminal fingerprint cards with nearly equal portions of each.

Figure 1-3 depicts the projected results of the five scenarios described earlier. They are shown on a relative scale, emanating from an arbitrary starting point for simplicity. Figure 1-4 shows that only by projecting the growth trends into the future near the end of the life cycle will the the expected work load lie outside the guidelines of 50% over or under the given 1993 work load. On the other hand, the growth in applicant clearance volume in scenarios #1 or #3a vis a vis the III scenario, #5, gives rise to a significant change in the applicant to criminal mixture of fingerprint cards submitted.

The significance of this change in mixture is the difference it causes in the loading of the system. Presently, 60% of all criminal fingerprint cards are identified as a result of a successful name check search, supported by a limited amount of other data in the card index section.* Conservative estimates of the performance of the automated name or subject search recently transferred to operations is that the automated system using a more complete physical description of the individual will find an even greater percentage in the name search (see Volume III). Applicants, on the other hand, are rarely found in the name check. Consequently, where most criminals inquiries do not require fingerprint search, the vast majority of applicants do. This places a greater burden on the fingerprint search function.

As reported in Volumes III, Operational Feasibility, and IV, Economic Feasibility, sensitivity testing was use to exercise the system over this dynamic range.

*See Volume V.

SECTION V

THE EXTERNAL MODEL OF THE ENVIRONMENT

A. INTRODUCTION

In contrast to the internal model discussed in Section II, the development of the external model (Figure 1-5, Section I) was based on an extensive investigation of the different users of the services of the Identification Division; of the hierarchy of federal agencies that have statutory or regulatory authority for oversight and governance of the Division, and of the state and local agencies whose actions may have impact on the Division. A further model of the external environment, showing competition and overlap of activities between the FBI and LEAA, is shown in Figure 5-1.

The model that emerged from these investigations is complex, as can be seen from Figure 5-1. Moreover, the complexity illustrated in that diagram is in fact a drastic over-simplification of the actual situation, since it does not indicate the multiple paths of interconnection between and among the agencies that appear, and entirely omits some agencies and independent organizations that can be the source of pressures and forces acting on the components shown in the diagram.

B. METHODOLOGY

The theoretical basis of the analysis derived from the external model has been sought in organization theory, in which considerable recent attention has been given to the problems of identifying the necessary and sufficient conditions for structural change in organizations. Analysis of these questions has provided the framework for the investigations reported here.

1. Data Collection

Data collection for analysis within the external model created great methodological difficulty. Within the environment of the Identification Division there are two general classes of agencies who are in a position to affect the Identification Division activities: (1) those agencies which are the source of work load for the Division, e.g., federal, state, and local agencies which submit requests for processing; and (2) those agencies with responsibility for governance of the Division, e.g., the Department of Justice, the Congress, etc.

For the latter, quantitative data that would be subject to analysis and inference about the climate for change was not available. For the former, quantitative data that reveal trends in system use that would permit inferences about the climate for change were available. However in analysis these data revealed no such trends and suggested a highly complex environment consisting of competing and counteracting political and economic forces.

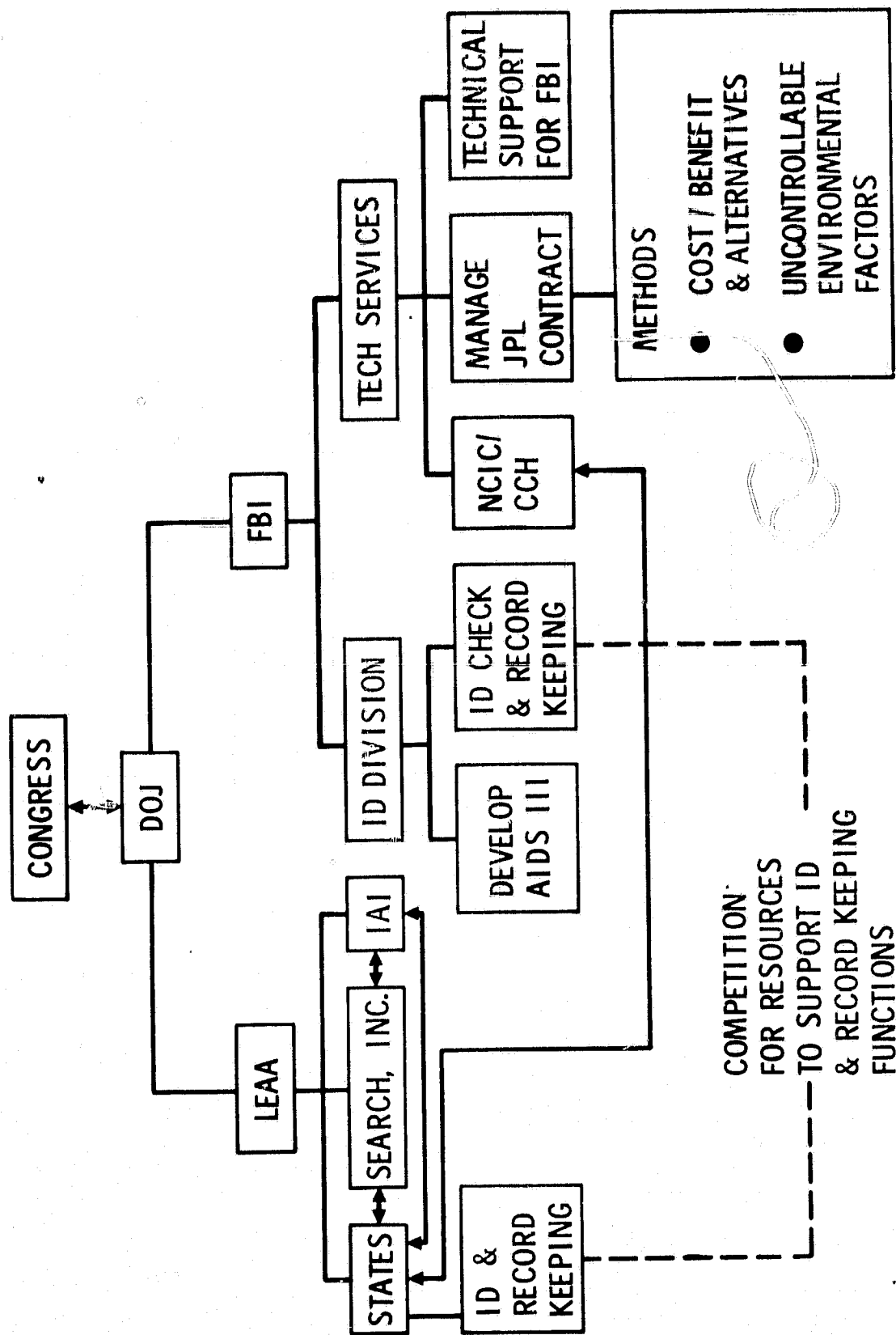


Figure 5-1. External Environment of the Identification Division

Thus, a decision was made to collect data on the perceptions of members of the various agencies within these two groups concerning the political and economic forces that influence their decisions as makers of policy on use and services of the Division. This created a further methodological problem in that the questions to be asked were not derived from any of the preconceived ideas or hypotheses about the environment. Rather, the problem was to systematically collect data which were subject to analysis in the internal and external models. The basis for the solution to this problem is found in the literature on qualitative research methods in society; particularly the work of Glaser, Barney, and Strauss, The Discovery of Grounded Theory, (Reference 1).

This method of data collection involves interviews and observations compared and analyzed in terms of their commonalities as well as their differences. This technique is called comparative analysis. With the use of this method, the impacts of the data are not so much the "facts" revealed by the subjects but the concepts that support them and the categories into which these "facts" are assigned. As data are collected, they are organized into categories, and as categories emerge, they are integrated into a systematic description of the environment. In this particular study the data come from three sources:

- (1) Management information supplied by the Identification Division itself.
- (2) Studies of information systems in criminal justice and law enforcement. Particular use has been made of two recent and thorough studies undertaken as part of the review by the Congressional Office of Technology Assessment. These studies, though incomplete during the investigation reported here, had access to extensive collections of data on the use of information in the criminal justice system and carried out a review of the literature on this and related topics.
- (3) Interviews with representatives of agencies and institutions in the external environment of the Division. These interviews were focused on the topics outlined above, but the subjects who were interviewed were also given opportunities to introduce topics of their own concern. Analysis of the results of the interviews have taken account of both the direct answers received and the modes in which the answers were formulated, i.e., enthusiastically, indifferently, hostilely, etc.

C. ANALYSIS OF USE OF DIVISION SERVICES BY EXTERNAL AGENCIES

1. State Agencies

Analysis described in Section II discussion of the internal model showed that submissions from agencies external to the

Identification Division are essentially evenly balanced between those from federal agencies on the one hand and those from state agencies* on the other. However, as argued there, the overall work load is to some extent dominated by the uses for criminal record keeping and criminal identification. Thus some of the uses do not appear in the data on submissions. Therefore, the use by state agencies, which are the principal contributors of criminal inquiries, may be considered to predominate.

Tables 5-1 and 5-2 list the criminal and applicant submissions received from the individual states for the years 1976 through 1979. From these tables it is clear that five states (California, Florida, Illinois, New York and Texas) account for almost half the total volume of state criminal submissions and three (California, New York and Florida) for 35% of applicant submissions. If the states are grouped according to volume, five (California, New York, Florida, Illinois, and Texas) provide 48% of the volume of criminal checks and three (California with 20%, New York, and Florida) provide 35% of the total applicant checks. Further, a substantial number of states contribute a smaller volume (under 50,000 per year) to the Identification Division work load. This is summarized in Table 5-3. Although these numbers are revealing, they do not provide measures for comparison, since it would be expected that both kinds of submissions are related to the populations of the states in question.

State populations would more generally be expected to be a principal determinant of both the number of submissions and the rate of submissions for several reasons. States with larger populations are both more urban, with the larger fractions of their populations residing in cities, and more likely to contain major metropolitan centers. Generally, crime rates and rates of employment in government, banking and the professions that require licensing and thus the submission of applicant fingerprints are all higher in urban and metropolitan centers. Moreover, such states would be expected to have larger and more highly organized agencies for law enforcement that are thus better able to make use of criminal history records and of fingerprint identification information than the comparable agencies in smaller states. This argument suggests that the rate (per capita) of submissions is a more revealing measure of the use by state agencies and one that is more likely to display identifiable patterns of use among individual states.

However, this hypothesis is not borne out by the data. In Figure 5-2, the states are arranged in descending order of population in 1978, beginning with California at 22 million and ending with Wyoming at 400,000. Keeping the states in this order, Figure 5-3 displays the rates per capita of criminal submissions and Figure 5-4, the rates per capita of applicant submissions. Inspection of these convincing displays demonstrates the essentially random distribution of the rates with respect to the populations. Rates of criminal

*Used here, the term "state agencies" refers to all state and local users.

Table 5-1. Criminal Fingerprint Submissions

State	FY 1976	FY 1977	FY 1978	FY 1979
Alabama	31,250	27,096	23,312	27,288
Alaska	7,558	7,462	6,629	7,233
Arizona	31,220	30,375	28,152	32,093
Arkansas	8,600	9,526	8,590	8,449
California	502,921	485,911	472,847	396,186
Colorado	26,583	24,020	21,790	25,661
Connecticut	32,340	31,348	29,751	30,363
Delaware	11,350	9,844	9,180	8,703
Washington, D.C.	8,497	1,044	317	582
Florida	148,049	149,479	150,868	173,101
Georgia	81,752	86,009	89,048	81,545
Hawaii	5,543	8,013	7,597	6,702
Idaho	5,362	4,914	4,722	6,629
Illinois	151,153	133,675	135,352	153,230
Indiana	25,506	19,828	19,137	18,133
Iowa	14,128	17,638	16,819	15,525
Kansas	16,330	17,395	17,519	18,722
Kentucky	17,916	15,725	17,317	17,418
Louisiana	44,967	43,690	46,765	48,230
Maine	3,793	3,238	4,531	5,262
Maryland	67,999	70,810	68,888	70,918
Massachusetts	17,645	18,979	17,312	14,849
Michigan	81,194	58,166	58,917	54,244
Minnesota	8,185	10,265	11,144	11,028
Mississippi	6,168	8,516	9,123	8,479
Missouri	38,392	37,574	30,164	30,327
Montana	3,453	3,729	3,510	3,213
Nebraska	7,747	7,729	6,467	4,702
New Hampshire	2,844	3,412	3,124	3,852
New Jersey	85,467	92,225	80,218	79,310
New Mexico	13,009	16,443	16,888	16,241
New York	296,714	301,276	329,458	312,396
North Carolina	31,156	36,667	37,743	41,686
North Dakota	1,170	1,297	1,358	1,201
Nevada	16,419	17,741	18,322	19,419
Ohio	70,228	68,897	66,542	69,582
Oklahoma	16,827	16,281	18,478	18,374
Oregon	22,595	27,428	29,993	33,142
Pennsylvania	73,941	74,940	69,134	65,776
Rhode Island	5,180	5,167	5,012	5,452
South Carolina	17,219	43,925	65,760	78,245
South Dakota	3,978	5,610	5,930	4,018
Tennessee	31,702	32,484	30,875	33,499
Texas	128,823	123,243	133,498	132,199
Utah	11,013	11,991	12,432	15,382
Vermont	1,338	1,046	1,022	1,512
Virginia	57,723	53,524	55,733	60,911
Washington	32,386	32,086	29,554	29,345
West Virginia	4,753	4,059	4,112	6,300
Wisconsin	27,897	23,719	22,592	23,119
Wyoming	2,757	2,833	2,757	2,944

Table 5-2. Licensing and Applicant Fingerprint Submissions

State	FY 1976	FY 1977	FY 1978	FY 1979
Alabama	2,794	1,820	3,189	2,706
Alaska	1,484	2,725	2,875	2,389
Arizona	19,835	27,174	44,621	46,855
Arkansas	2,239	3,087	3,894	4,030
California	111,550	137,525	159,160	205,036
Colorado	17,401	16,231	19,256	17,680
Connecticut	12,730	11,146	9,351	8,451
Delaware	1,380	1,941	2,517	3,350
Washington, D.C.	12,916	26,903	11,411	12,403
Florida	97,349	71,769	103,626	89,991
Georgia	17,248	56,139	43,798	35,997
Hawaii	548	727	571	453
Idaho	8,870	11,159	10,094	8,070
Illinois	22,275	21,256	26,355	38,159
Indiana	7,588	8,311	7,949	3,148
Iowa	2,247	2,851	6,040	2,764
Kansas	2,509	1,340	1,059	1,100
Kentucky	1,553	990	1,965	1,764
Louisiana	9,472	8,147	5,938	3,655
Maine	556	291	299	589
Maryland	14,197	17,099	20,228	22,754
Massachusetts	1,257	3,761	2,077	2,815
Michigan	7,827	8,994	8,257	6,187
Minnesota	826	578	682	615
Mississippi	746	765	929	1,000
Missouri	7,394	7,891	7,699	8,919
Montana	439	602	514	502
Nebraska	744	1,010	1,129	951
New Hampshire	758	724	1,179	1,320
New Jersey	86,346	79,514	75,587	74,953
New Mexico	6,494	6,695	7,172	6,214
New York	117,504	58,134	119,077	91,051
North Carolina	11,032	12,137	12,607	13,436
North Dakota	111	150	200	67
Nevada	46,389	49,112	46,975	30,832
Ohio	22,858	10,506	20,038	21,887
Oklahoma	2,392	2,480	2,747	2,829
Oregon	8,033	9,417	8,816	9,397
Pennsylvania	17,247	15,770	13,427	14,709
Rhode Island	1,051	668	1,799	1,010
South Carolina	10,811	9,695	8,837	11,448
South Dakota	414	517	393	350
Tennessee	5,915	7,104	5,990	7,656
Texas	12,546	13,392	19,028	25,219
Utah	787	840	930	1,008
Vermont	3,511	866	1,318	1,308
Virginia	5,730	5,132	8,098	13,043
Washington	33,064	34,941	37,826	39,972
West Virginia	607	815	586	822
Wisconsin	2,702	2,704	3,478	3,704
Wyoming	224	172	186	227

Table 5-3. Categories of Submission Levels by States

Number of Submissions	Criminal	Civil
10,000 or less	17	33
10,000 to 50,000	20	14
50,000 to 100,000	9	3
100,000 or more	<u>5</u>	<u>1</u>
	51	51

submissions vary by a factor of 20 between Nevada at 27.7 per capita and North Dakota at 1.7 per capita, and the rates associated with the larger states of the left side of the figure are not consistently higher than those of the smaller states on the right side. Applicant submission rates per capita vary even more widely, by a factor of more than 100 between Nevada at 44 per capita and Mississippi at 0.4 per capita. (Related statistics for the years 1976 through 1978 are given in Appendix B.)

Additional calculations were carried out using statistical techniques, and the results confirmed the difficulties in analytical classification of state submissions. Crime rates, for example, appear to explain less than 50% of the variance in criminal submissions, despite the fact that these rates were calculated on the basis of a well-defined collection of "major crimes" derived from data collected from state and local law enforcement agencies and thus would be expected to display close correlation with criminal submissions.*

The failure to obtain evidence of the expected relationship between the populations of states and the rates and numbers of submissions suggested that other methods of analyzing the patterns of state submissions be attempted. For this purpose the patterns of state submissions over time were investigated graphically with the purpose of identifying subgroups of states displaying consistent increases or decreases in submissions and consistent ratios of criminal and applicant submissions. The results for the four years for which data were available are shown in Figure 5-5. In these figures, the vertical bars with shading indicate the number of criminal submissions for each year, 1976 through 1979, for each state, and the unshaded vertical bars indicate applicant submissions for the same years.

*Although data on sets of observations smaller than the available 50 data points for the states are regularly used for multivariate statistical analysis, such analysis is not securely applicable and can yield misleading results.

It is immediately clear from these figures that not only do the ratios of criminal to applicant submissions vary enormously among the states but that increases and decreases in the two kinds of submissions fail to display consistent patterns even in single states, let alone in groups of states.

The explanation for this diversity in the use by the states of the services of the Identification Division is to be found in the diversity of the states themselves: in the demographic, economic and regional characteristics that determine social patterns and equally if not more importantly, in the idiosyncratic characteristics of state laws and regulations governing law enforcement and requirements for employment and licensing. The implications for the analysis of the external environment users of Identification Division's services are clear. A reliable and comprehensive analysis of use by state agencies requires necessarily a state-by-state investigation in some considerable depth. In particular, understanding must be acquired of the uses in each state to which the information sent to the Identification Division and received from it is put and of the value in use of the information.

Not only is such a study far outside the scope of analysis reported here, but the record keeping on which such studies are necessarily based does not exist. Records are not kept of such important aspects of information as the recipients of information received by state and local agencies, the constraints on its dissemination, the destinations and eventual disposition of the information. The presence of redundancy in the various local, state and national systems of criminal information is strongly suggested by the observations discussed above, but the extent of the redundancy and its costs inferred from final uses can not be estimated on the basis of existing data.

Implications of the analysis reported here will be discussed below in the sections dealing with the sources of structural change in state agencies. At this point it is sufficient to indicate that the diversity of uses and purposes of each of the states for information in the Identification Division system suggested by these observations implies the lack of coherence in efforts originating in states to change existing patterns of organization whether or not these patterns are satisfactory to them.

2. In-State Identification Systems

In surveying state practices for the purpose of rating each state on the basis of information capability and information use, the User Study (Reference 5) inquired about two features of state systems that are useful to this study.* One feature was state criminal history

*This study surveyed only 43 states and excluded New York. We have added New York and included it in our discussions based on our interviews there.

UNITED STATES POPULATION IN 1978 (MILLIONS)

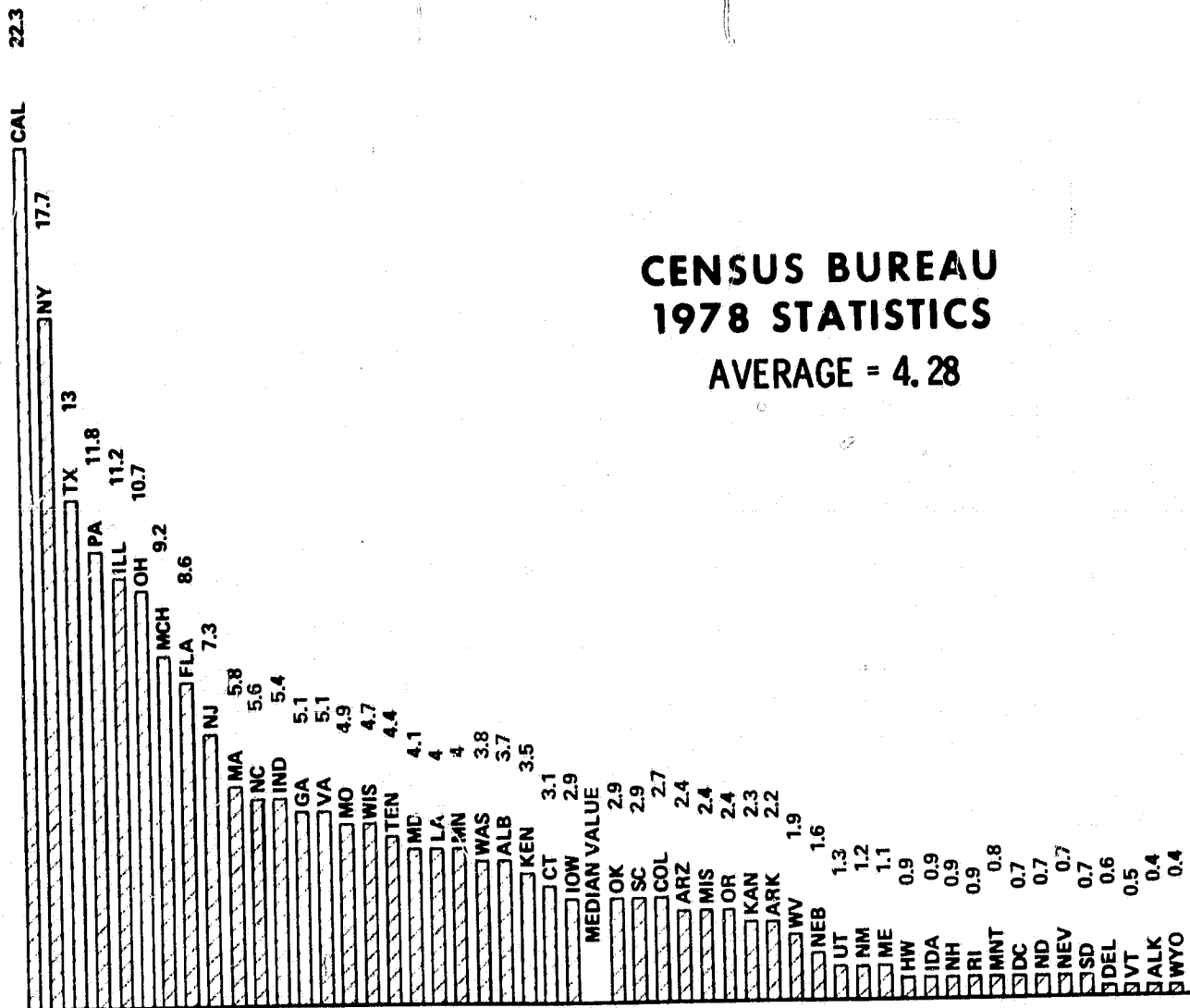
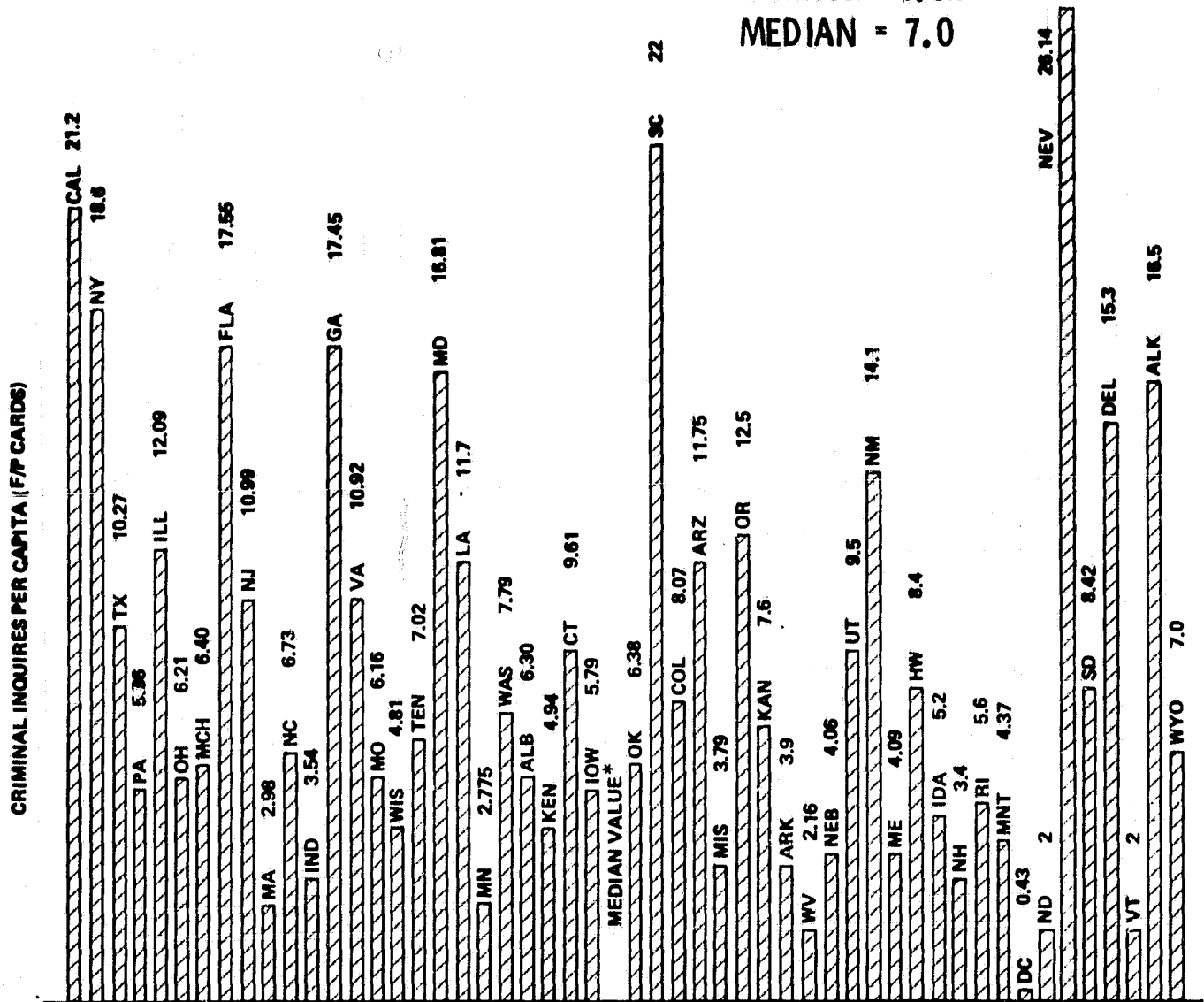


Figure 5-2. Census Bureau 1978 Statistics

FBI IDENTIFICATION DIVISION 1978 STATISTICS

AVERAGE = 8.82

MEDIAN = 7.0



*Median value on the basis of population.

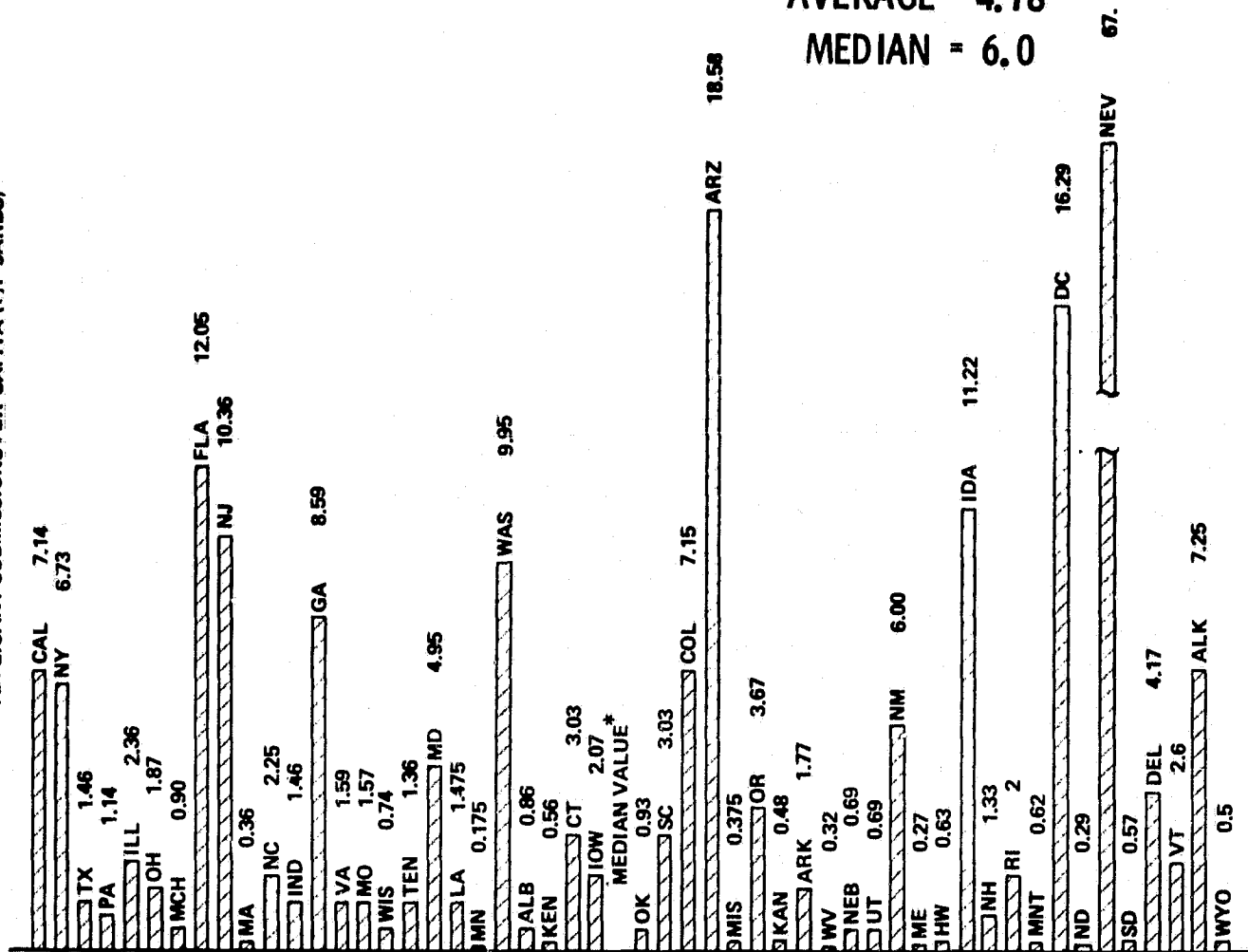
Figure 5-3. FBI Identification Division 1978 Criminal Statistics, Per Capita

FBI IDENTIFICATION DIVISION 1978 STATISTICS

AVERAGE = 4.78

MEDIAN = 6.0

APPLICANT SUBMISSIONS PER CAPITA (F/P CARDS)



*Median value on the basis of population.

Figure 5-4. FBI Identification Division 1978 Applicant Statistics, Per Capita

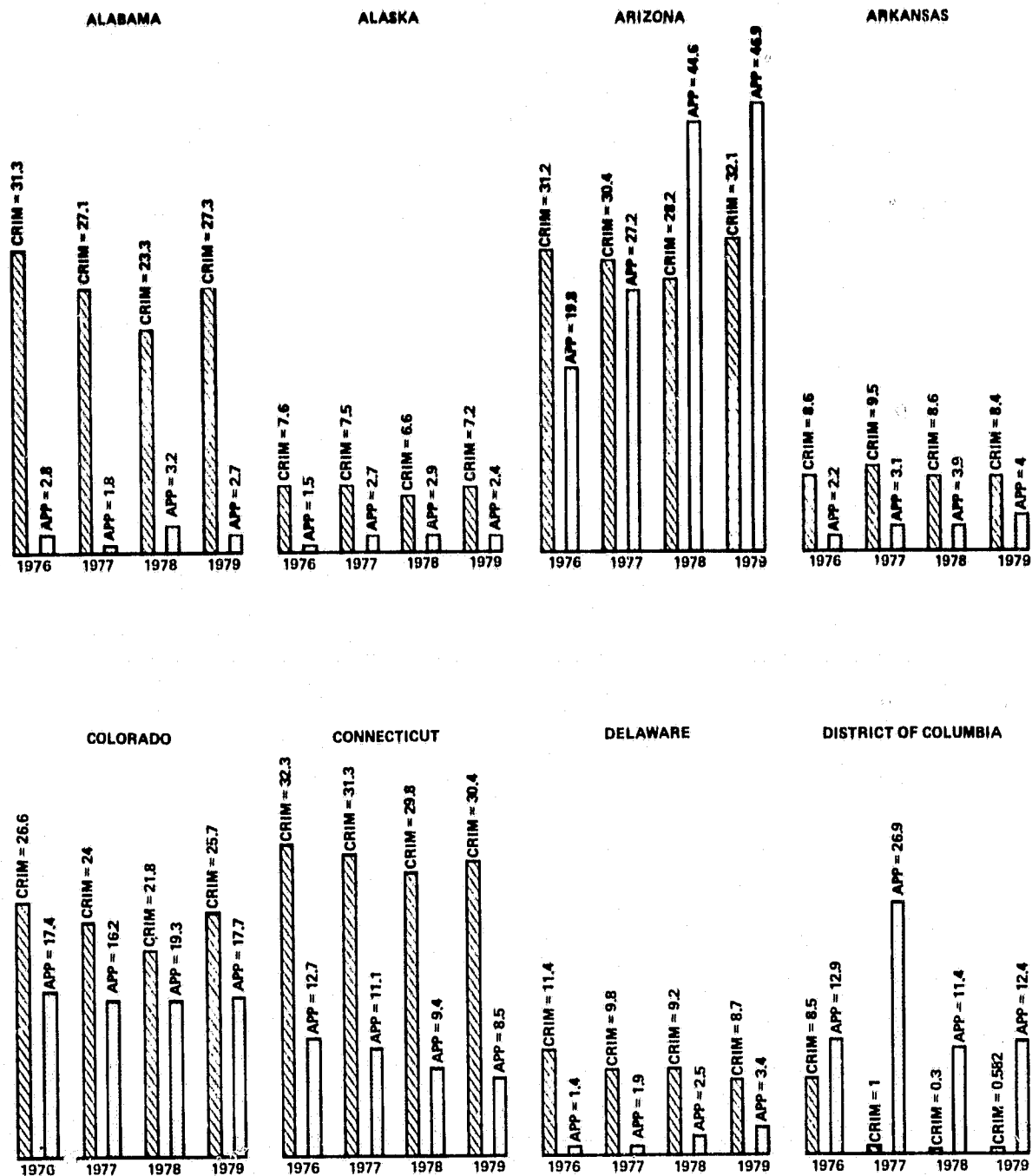


Figure 5-5. Time Variation of State Submissions, 1976 to 1979

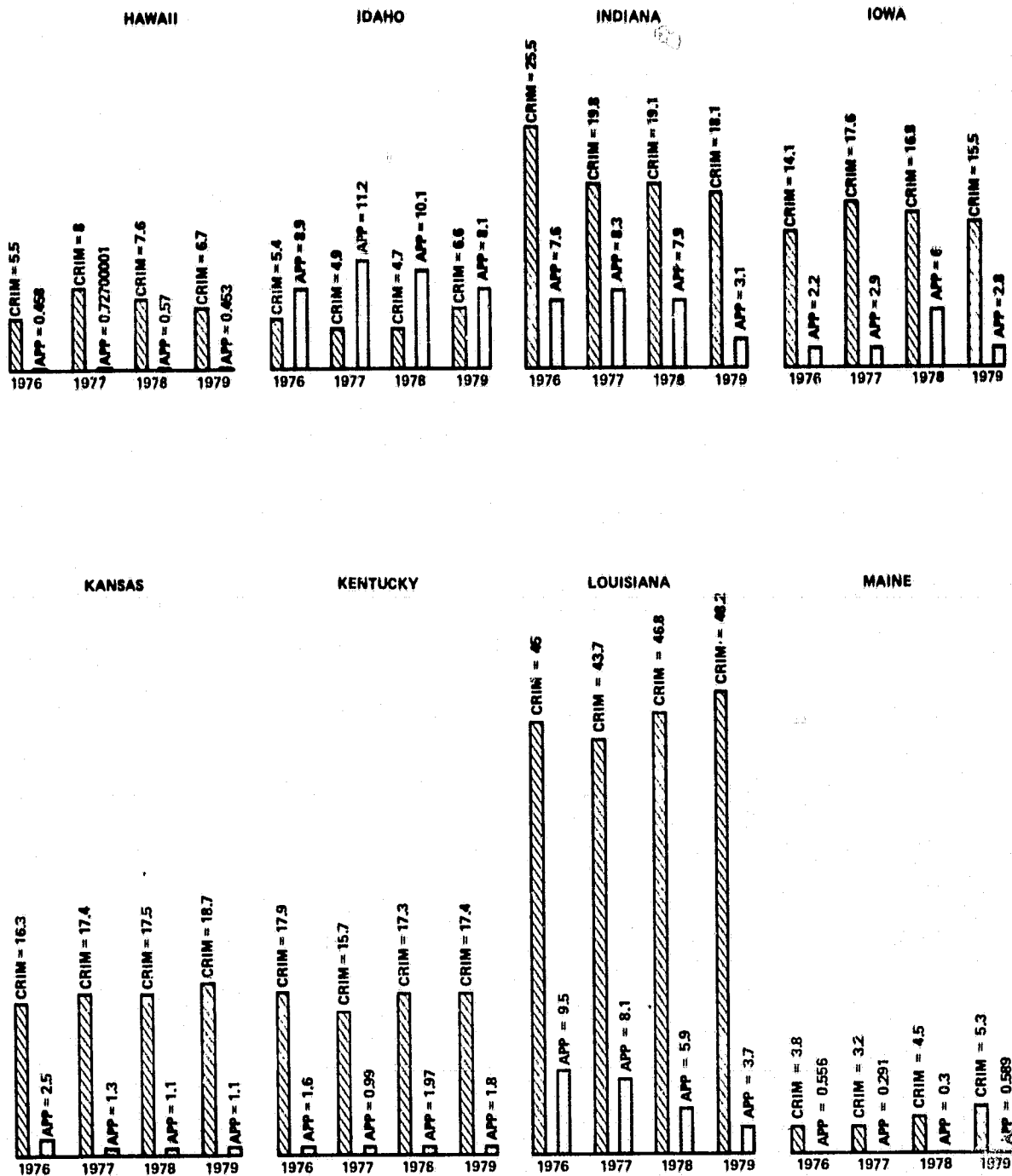


Figure 5-5. (Cont'd)

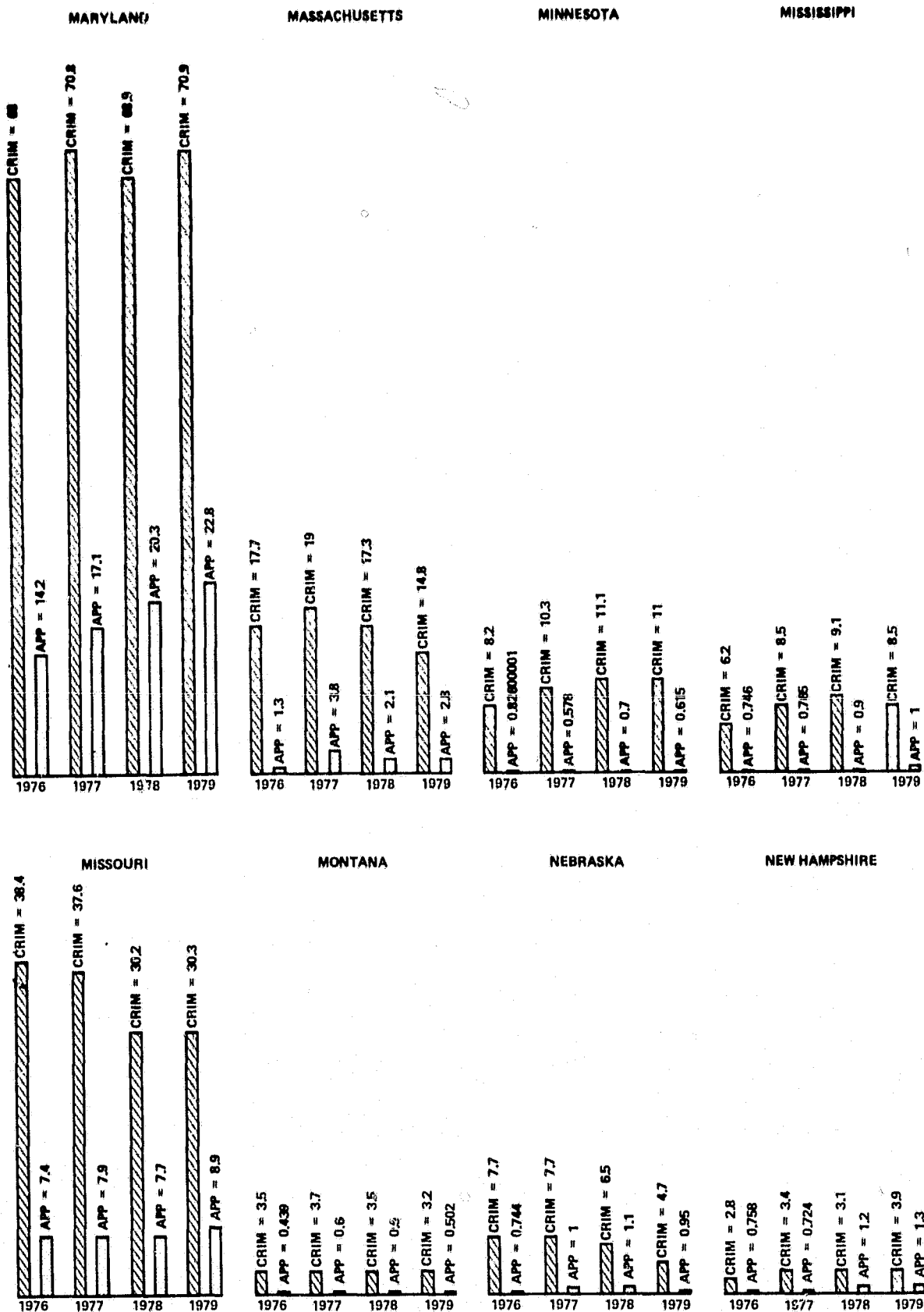


Figure 5-5. (Cont'd)

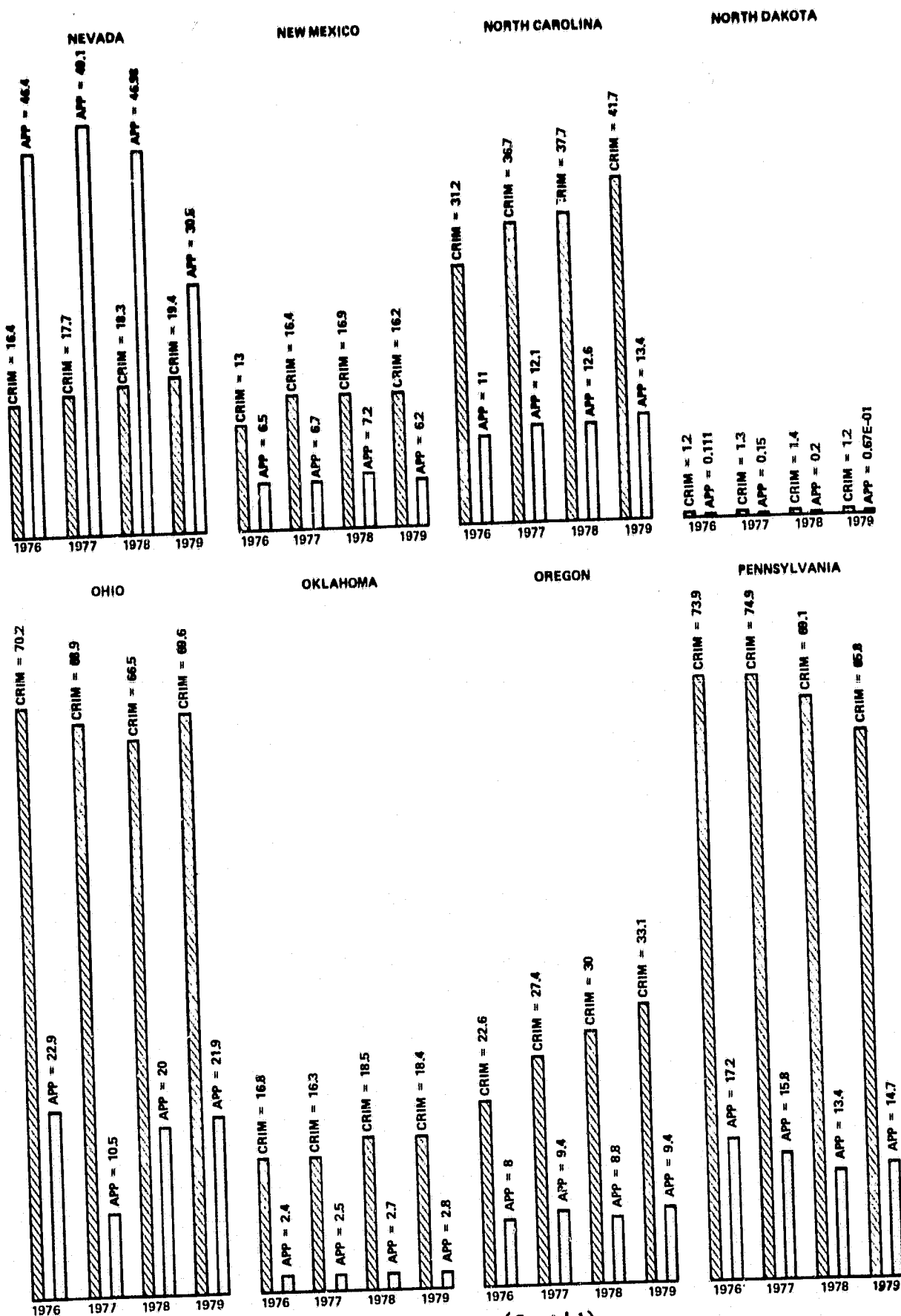


Figure 5-5. (Cont'd)

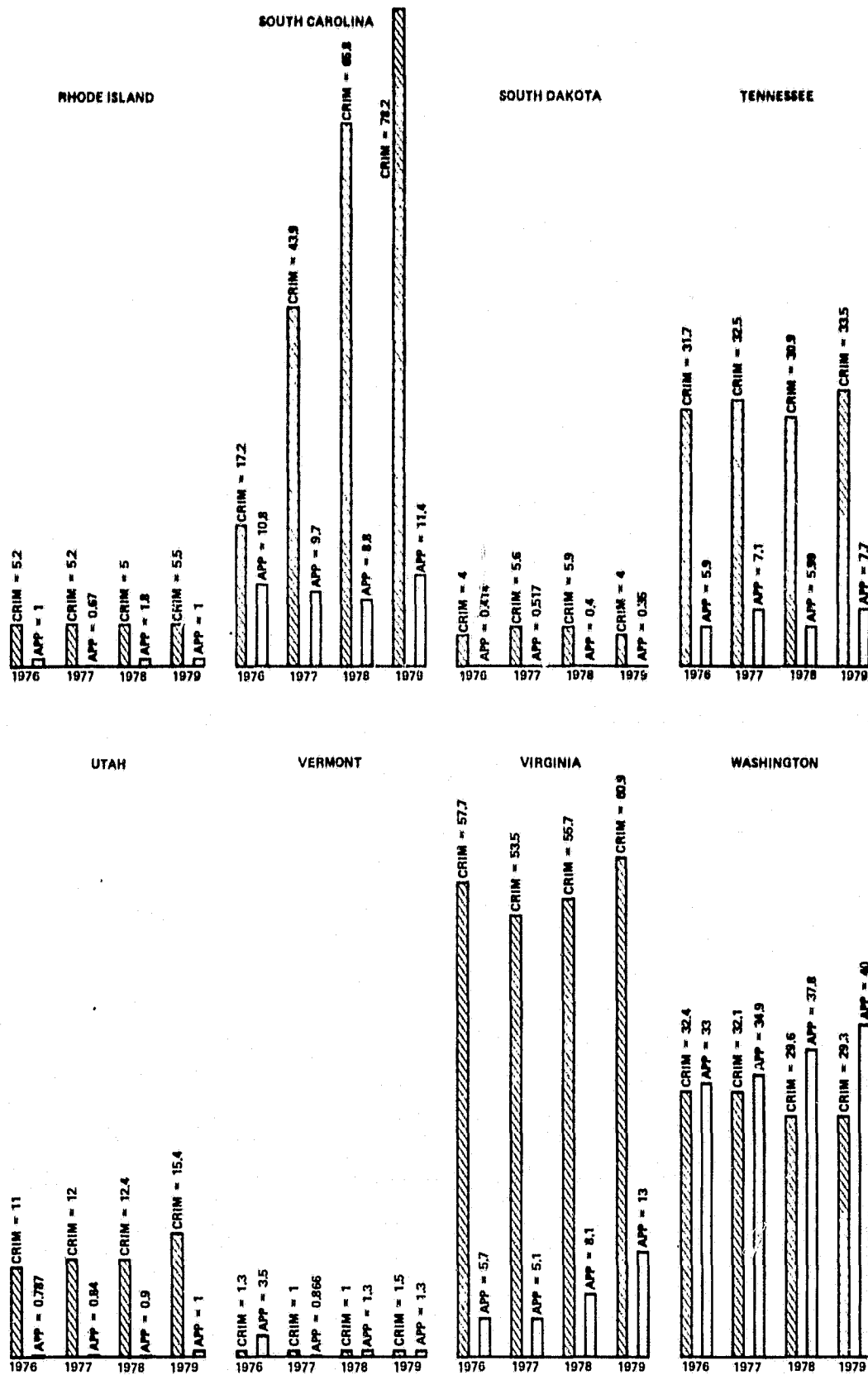


Figure 5-5. (Cont'd)

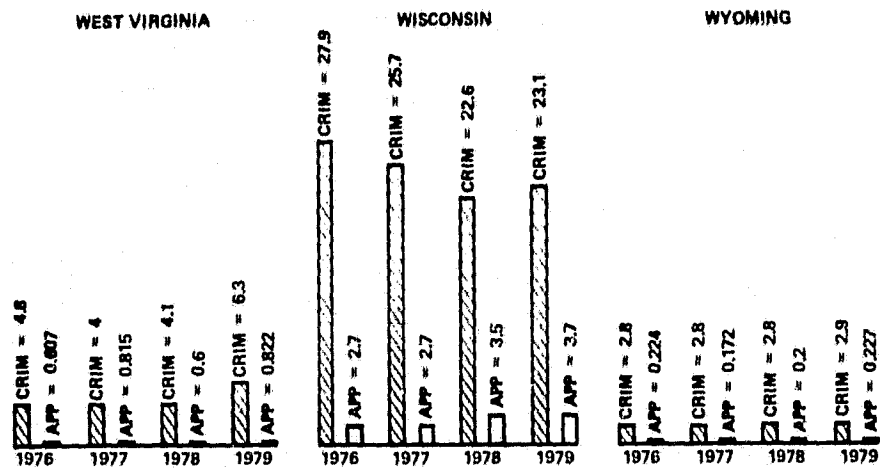
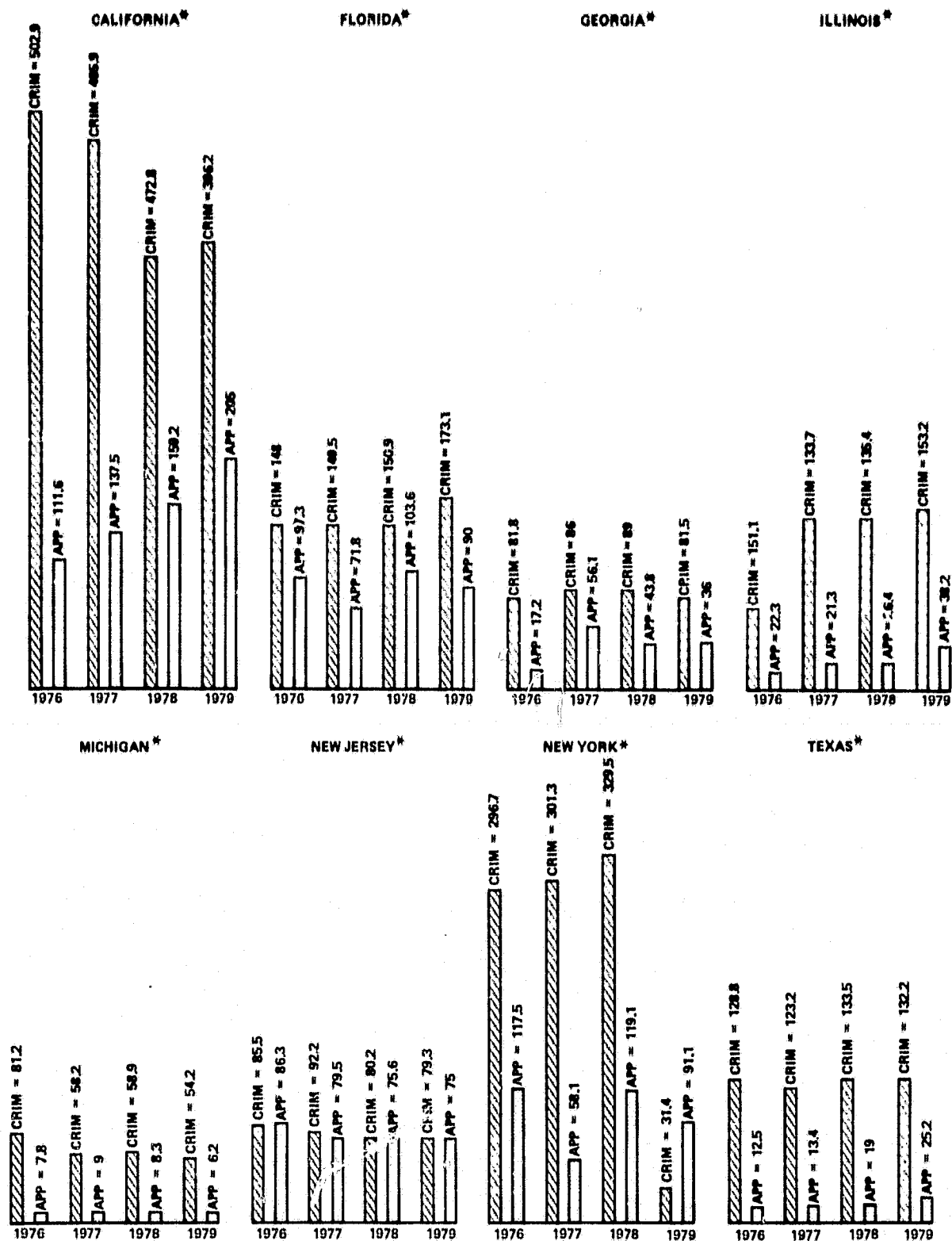


Figure 5-5. (Cont'd)



*Above states are the largest submitters and are on a separate scale from previous states.

Figure 5-5. (Cont'd)

files, which are presumed to correspond to the Identification Division's criminal history record-keeping facilities. (This should not be construed to necessarily mean that state files contain the same information as Identification Division files.) In evaluating the records, the User Study grouped states according to the degree to which a state's records were automated. These categories and the number of states assigned to each are shown in Table 5-4.

Table 5-4. State Development of Criminal Justice Information Systems^a

<u>Categories</u>	<u>Number of States</u>
Partial manual file	4
Manual file	14
Comprehensive manual file and automated index	0
Automated criminal history file, initial conversion	4
Automated criminal history file, ongoing conversion	21

^aSee Reference 5, pp. 163-65.

A review of these states that are fully automated reveal that they include the five largest contributors to Identification Division records.

The second feature examined by the User Study (Reference 5) was centralizing reporting. This category reflects the degree to which local agencies reported or submitted to their state either voluntarily or in accordance with state law. This analysis was designed to draw some conclusions regarding the completeness of state files. It also provides some indication of how frequently local police submit directly to the Identification Division. These figures are summarized in Table 5-5.

An analysis of Table 5-5 reveals that the five largest contributors to the Identification Division all have mandatory reporting.

A review of the present situation from an operational view suggests two working hypothesis which merit investigation: (1) that the Identification Division work load is primarily a function of the technological development of the state, when there are controls for population differences; and (2) that those states that are interested in criminal justice information have active and well-developed systems

Table 5-5. Summary of State Reporting Requirements and Practices^a

No centralized reporting	8	(18%)
Partial reporting	17	(30%)
Full reporting (required by 13)	19	(43%)

^aSee Reference 5, pp. 168-172

and those that do not are not likely to do so. This latter conclusion can be further tested by reviewing the situation with regard to the regulation of criminal justice information.

3. Federal Agencies

As discussed in Section I, the criminal submissions from federal agencies to the Identification Division constitute a relatively small fraction of criminal submissions (11%) and an almost negligible fraction of total submissions (3%). However, 72% of applicant submissions are from federal agencies, corresponding to 42% of total submissions.

All federal agencies are able to use Identification Division services for either criminal justice or checks on applicants for (federal) employment. Data on the source of requests for fingerprint identification from federal agencies are not available, so the aggregate data in the figures above are the only kind of information that could be obtained on federal users of criminal identification and record keeping.

A breakdown is shown of applicant submissions by federal agencies in Table 5-6.

Of the total submissions from federal agencies for non-criminal uses, more than half (59%) come from the Department of Defense, 38% come from the Office of Personnel Management, and 21% as part of the security and background investigations to which certain federal applicants and the employees of certain federal contractors are subject.

In contrast to the dispersion of uses among state agencies, the use of Identification Division services by federal agencies are thus relatively easily characterized, with well-defined statutory and regulatory limits on the submissions from each agency. These observations have been used to select the federal agencies for further investigation by interview.

Table 5-6. Secondary Usage of Identification Division
by Federal Agencies, FY 1978

Purpose of Use	Fingerprint Cards Submitted	
<hr/>		
<u>Federal Employment</u>		
Army	191,445	
Air Force	82,228	
Navy	95,054	
Marine Corps	54,951	
Coast Guard	30,522	
Office of Personnel Management	330,602	
Miscellaneous federal agencies	<u>45,476</u>	
Subtotal	830,278	(34%)
<u>Other Employment Subject to Federal Regulations</u>		
Federally chartered/insured banks	268,623	
Securities industry	<u>72,600</u>	
Subtotal	341,223	(14%)
<u>Federally-Related Employment (Contractors, security clearances)</u>		
Department of Energy	25,101	
Defense Investigative Service	281,945	
Department of Transportation	1,561	
Other federal agencies	<u>160,336</u>	
Subtotal	468,943	(19%)
<u>Non-Employment Secondary Users</u>		
Department of State (primarily for aliens entering the United States)	268,167	
Veterans Administration (establishing entitlement to benefits)	3,323	
Immigration and Naturalization Service (persons applying for naturalization, citizens applying for adoption of foreign-born children, etc.)	<u>534,931</u>	
Subtotal	806,421	(34%)
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TOTAL All Federal Secondary Users	2,446,865	
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Reference: User Study, Office of Technology Assessment.		
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D. FEDERAL REGULATION OF CRIMINAL JUSTICE INFORMATION

A detailed review of the federal regulations concerning arrest and disposition information is contained in Appendix A of this report and in the Social Impacts Study (Reference 6, pp. 281-356). A review of these regulations indicates that the federal government has chosen to regulate arrest and disposition information at the point of management and dissemination. Appendix A reveals almost exclusive reliance on purging and sealing, and regulations pertaining to dissemination for regulation. The only regulations pertaining to collection are those that pertain to criterion offenses, which define what offenses will be included in Identification Division rap sheets.

Further, the Social Impacts Study reveals three assumptions in federal regulations that indicate the limited extent to which federal agencies can or will go in regulating information held by the Identification Division (Reference 6, pp. 300-301). These assumptions are:

- (1) Agencies have broad discretion within these regulations.
- (2) Participation is voluntary as the program is viewed as a service to the states and local law enforcement agencies.*
- (3) Policy evolves on a case by case basis in response to legislation or court cases.

What is revealed here is the limited opportunity federal agencies have in using regulations of the system as a means of managing it and planning for its future. This is primarily due to its voluntary nature. As the Social Impacts Study points out, any attempt to over-regulate the system would violate the state's rights principle that has prevailed in law enforcement for many years (see Reference 6, p. 301). Over-regulation could be explicit and result in states pulling out and eventually the system would disappear. Federal regulations are faced with the difficult problem of balancing public policy regarding maintenance and dissemination of arrest and disposition information and the need to monitor the entire system. From a federal view, there is little within the regulatory system to promote change.

E. STATE REGULATION OF CRIMINAL JUSTICE INFORMATION

The Social Impacts Study contains an extensive review and some evaluation of state regulation of criminal justice information (Reference 6, pp. 304-356). While this review confirms the hypotheses that states are likely to attempt to control outcomes through

*Interviews at the Identification Division revealed the extent to which this assumption plays a part in the day-to-day operation of the Division. Statements such as, "We're really here as a service" were common.

legislation and regulation, there are no patterns which emerge that give solid indication of future trends. The Social Impacts Study reports: "...there is some evidence to support almost any reasonable policy arguments various actors care to make," (Reference 6, pp. 338).

The foregoing analysis provides insight into some operational aspects of the Identification Division. These aspects fail to reveal any major trends toward change among the users of the system. Further, the analysis fails to reveal that one source of activity generates substantially more work than another. With regard to activity by source, federal employment checks provide the greatest activity in the identification function (39%) and in the record-checking subfunction. On the other hand, state employment checks and criminal checks generate about an equal amount of activity (13% and 14%) in the identification function. State criminal checks generate the largest amount of activity in the criminal history record-keeping function, i.e., record changes.

F. CONCLUSIONS

1. Conclusions About the Work Load

With regard to the possibility of change starting with the users of the system, there is evidence that there will be little change in that area. The analysis reveals that those states that are major users of Identification Division services are those which have extensive criminal justice information capabilities and are likely to retain and upgrade them; those who are not major users do not have sophisticated systems and are not likely to acquire them. Further analysis reveals that federal legislation and regulation of criminal justice information is not likely to be an effective tool for bringing about change.

Specific facts supporting these conclusions are:

- (1) 48% of the work load for the Identification Division comes from five states.
- (2) 72% of the states each have 50,000 annual criminal applicant checks or less.
- (3) The top five states in criminal submissions all have automated systems and require centralized reporting.
- (4) With one exception, the top five states in applicant submissions all have automated systems and centralized reporting. (Arizona has only partial centralized reporting.)
- (5) Because of the voluntary nature of the system, federal regulation of arrest and disposition of information collection is not as effective as state regulation in controlling the system.
- (6) The wide variation in regulatory practices among the states makes it impossible to generalize about them.

To further test these conclusions, additional study should be undertaken to determine the following:

- (1) The actual use and value of arrest and disposition information in the criminal justice system.
- (2) An estimate of what proportion of all criminal records in the country are held in the Identification Division.
- (3) The priorities which states give to expenditures for criminal justice information systems.
- (4) The impact of improved state systems on the Identification Division.
- (5) Various state policies regarding privacy. (Only inferences about these policies are drawn from other studies.)
- (6) The interest of law enforcement agencies in interstate crime and criminals. (This, however, is currently being addressed by Stanford Research Institute in a study commissioned by LEAA.)
- (7) The relationship between certain demographic variables of states, i.e., population, population density, per capita income, etc., and state use of the Identification Division.

Such studies can be expected to verify the equilibrium situation and provide better insight into the impact of environmental change.

2. AIDS III System Design Conclusions

External environmental analysis resulted in the conclusion that it would not be possible to predict events in a manner that would be useful to the system designers. This conclusion was reached for two reasons. First, it is well known that specific events are difficult to predict. Further, it is difficult to determine, a priori, whether events, even if they could be predicted, represent trends that should be accounted for in designing a system, or whether they are impluses whose impact subsides as the environment returns to normal.

Second, there has been no systematic evaluation of the benefits of the information provided by the Identification Divisions to various users.* Because the benefits are unknown, the reasons and motives for using the system are unknown. Because the motives for using the system are unknown, the response of users to any particular event cannot be predicted with sufficient confidence to be useful in evaluating alternative designs.

*This conclusion is also reached by the Congressional Office of Technology Assessment's User Study (see Reference 5).

REFERENCES

1. Glaser, B., and Strauss, A. L., The Discovery of Grounded Theory, Aldine Press, Chicago, Illinois, 1967.
2. Lewin, K., "Group Decision and Social Change," Readings in Social Psychology, T. J. Newcomb and E. L. Hartley, editors, Holt, New York, 1952.
3. Schien, E.H., "Management Development as a Process of Influence," Industrial Management Review, Vol. 2, No. 2, pp. 59-77, Spring 1961.
4. Kolb, D.A., and Frohman, A.L., "An Organizational Development Approach to Consulting," Sloan Management Review, Vol. 12, No. 1, pp. 51-65, Fall 1970.
5. An Assessment of the Uses of Information in the National Crime Information Center and Computerized Criminal History Program, study in progress, Congressional Office of Technology Assessment, Washington, D.C.
6. An Assessment of the Social Impacts of the National Crime Information Center and Computerized Criminal History Program, study in progress, Congressional Office of Technology Assessment, Washington, D.C.
7. FBI Identification Automation Study: AIDS III Evaluation Report, Vol. VII, Top Down Functional Analysis, JPL Pub. 80-79, Jet Propulsion Laboratory, Pasadena, California, August 1980.
8. Keen, P.G.W., "Information Systems and Organizational Change," unpublished working paper, Stanford University, Stanford, California, 1978.
9. Keen, P.G.W., "Implementation Research in OR/MS and MIS: Description v. Prescription," Stanford University Research Paper Series, Graduate School of Business, Stanford University, Stanford, California, July 1977.
10. Keen, P.G.W., and Scott-Morton, M.A., Decision Support Systems: An Organizational Perspective, Addison-Wesley, Menlo Park, California, 1978.
11. Alter, S. L., Decision Support Systems: Current Challenges and Practices, Addison-Wesley, Menlo Park, California, 1980.
12. Bordach, E., The Implementation Game: What Happens After a Bill Becomes Law, MIT Press, Cambridge, Massachusetts, 1977..
13. Computerized Criminal History Program: Background, Concept, and Policy, unnumbered document, National Crime Information Center, Federal Bureau of Investigation, December 13, 1979.

APPENDIX A

LEGAL CLIMATE IN WHICH THE IDENTIFICATION DIVISION OPERATES

A. STATUTORY AUTHORITY TO OPERATE AN IDENTIFICATION DIVISION

The FBI Identification Division's authority to establish and maintain criminal and civil identification files is found in 28 USC § 534 (1968). In part, this statute authorizes the Attorney General to acquire, collect, classify, and preserve criminal, identification, and other records, and to exchange them with authorized officials of federal, state, and local law enforcement agencies, and with penal and other institutions. The Attorney General has delegated this authority to the Director of the FBI, and the task is currently performed by the FBI's Identification Division. This delegation of authority and the rules put forth by the Department of Justice concerning the administration of the statute are codified in Title 28, Code of Federal Regulations (CFR). In addition, a 1976 amendment to the Omnibus Crime Control and Safe Streets Act of 1968, P.L. No. 90-351, 82 Stat. 200 (1968), adding a Section 524 (42 USC § 3771) directs the executive branch to assure that the privacy of criminal history information is adequately provided for (reorganized by P.L. No. 96-157, § 818, 93 Stat. 1212 (1979) as 42 USC § 3789g (Supp. 1980). Some of the regulations in 28 CFR Part 20 were issued pursuant to this congressional privacy standard.

B. CONTENT OF THE FILES

A description of what information may be stored in criminal history records may be found in 28 CFR § 20.2 (1975). This includes "identifiable descriptions and notations of arrests, detentions, indictments and information, or other formal criminal charges, and any disposition arising therefrom," and details as to sentencing, correctional supervision and release (Id). Only serious and/or significant offenses may be stored in these records (28 CFR § 20.32, 1975. It specifically excludes as nonserious offenses "drunkenness, vagrancy, disturbing the peace, curfew violation, loitering, false fire alarm, non-specific charges of suspicion or investigation, and traffic violation" (Id). Offenses committed by juvenile offenders are also specifically excluded unless the juvenile is tried in court as an adult.

Menard v. Saxbe, 498 F.2d 1017 (1974) resulted in judicial examination of the content of the FBI's criminal history files. It involved a suit against the FBI for expungement of a state (California) arrest record retained by the FBI. It had been established at the state level that there was no probable cause for the arrest, and the status of the proceeding was changed from "arrest" to "detention." The FBI had been so notified, and had amended its record to show that the subject's encounter with the police was not considered to be an arrest under California law, and that no formal

proceedings had been brought against him. The court determined that once the FBI was notified that the subject was not involved in the criminal justice process, it had no authority to retain the record in the criminal files, even though the record accurately portrayed the events as they had occurred. The statute only authorizes the storage of formal criminal proceedings in the criminal files. The court stated that the Identification Division has a responsibility to maintain an appropriate separation of its files, and to assure that it does not disseminate criminal files containing inappropriate information. This includes an obligation to review the propriety of continuing to retain a record in the criminal files in light of new information received about a subject. The decision was carefully grounded on statutory considerations, but the court left as an open question the extent to which this decision is mandated by the Constitution. If it is a constitutional requirement, it cannot be dispensed with by statute.

One problem that arises out of this decision and that is currently unresolved within the Identification Division is what to do with the fingerprints of suspects who undergo pretrial diversion. This alternative to the usual judicial process is sometimes employed when the U.S. Attorney determines that the suspect's infraction of the law was due to an unfortunate set of circumstances and is not likely to be repeated. The suspect is sometimes formally arrested, and at other times not. Instead of going through the usual criminal process, he agrees to a set of conditions, which usually involve some sort of restitution to the victim and a period of probation. If he successfully fulfills his obligations under the agreement, charges are either dismissed or never brought. The unresolved question is whether pretrial diversion qualifies as a formal criminal process under Section 534 when the suspect is not actually arrested. The FBI retains all of the fingerprints now, but its authority to do so is uncertain after Menard. The Identification Division has requested legislative direction in this matter, but so far none has been forthcoming.

C. UPDATING OF RECORDS

On May 20, 1975, the Department of Justice issued regulations prohibiting dissemination of arrest information more than one year old unless accompanied by a disposition when no active prosecution of the charge is known to be pending (28 CFR § 20.33, 1975). This prohibition does not apply to records released for law enforcement purposes or to authorized federal agencies. This regulation came in the wake of Tarleton v. Saxbe 507 F.2d 1116 (1974) in which the court expressed concern about the impairment of an individual's liberty that results when he stands accused of a crime. It noted that the reason for the constitutional guarantee of a speedy trial is to mitigate this restriction of the accused's liberty, and the court suggested that the lower court inquire into what justifications, if any, exist for the FBI's failure to indicate dispositions within a reasonable time after arrest. Two years later the district court order in Tarleton v. Saxbe

407 F. Supp. 1083 (1976) directed the FBI to conduct a feasibility study of system procedures that would enable it to keep disposition entries in its criminal records reasonably current. By the time the study was conducted the FBI had solved the immediate problem by promulgating 28 CFR § 20.33 (1975). Most of the systems and procedures suggested by the study for keeping the disposition data more current were designed for use in a computerized system.

The Identification Division now gets dispositions for about 45% of the arrests reported, including those it gets from the FBI itself. Regulation 28 CFR § 20.37 (1975) makes it the responsibility of each criminal justice agency contributing data to the criminal history record information system to assure that information is kept complete, accurate, and current. This regulation calls for dispositions to be submitted within 120 days after the disposition has occurred. However, the only sanction available for enforcing this policy is regulation 28 CFR § 20.38 (1975) which permits the Department of Justice to cancel its criminal record services to any agency that fails to comply with its regulations. AIDS III will probably be programmed to ask submitting agencies for dispositions if they are not received within a certain period of time after receipt of the record. If this new procedure is successful, the Identification Division can expect an increase in its work load, as it will have to process this additional information.

Pursuant to 28 CFR § 20.32 (1975) the Identification Division no longer records minor and juvenile offenses. This regulation went into effect in June 1975. It does not require the FBI to expunge information on minor offenses previously compiled. However, the district court's order in Tarleton v. Saxbe 407 F. Supp. 1083 (1976) required the FBI to delete from the record, prior to dissemination, all information relating to nonserious offenses. The FBI is deleting these offenses from records that have been requested as they are sent out. In each case the complete record is retyped so that it does not appear that information is missing. However, the FBI does not discard the fingerprint cards that are the source of its information on these offenses. The reason for this is that its system of verifying identification depends on matching each set of prints with the one previously received. Removing a set of prints from this string would entail reidentifying the next set with the new set which immediately precedes it. When AIDS III file conversion occurs, these nonserious offenses will not be transferred to the system.

The FBI currently expunges and seals records pursuant to state and federal court orders. Authority for sealing of the record of a person who has been found guilty of unlawful possession of a controlled substance is found in 21 USC § 844(b)(1) (1972). If he has not previously been convicted of violation of any federal narcotics laws, the court may, after trial or entry of a guilty plea, place him on probation without entering a judgment of guilty. If he does not violate any conditions of the probation, the court may dismiss the proceedings. The Department of Justice retains a record of the proceeding solely to determine first offender status in subsequent proceedings.

Section 844(b)(2) of Title 21 states that if the person is under 21 years of age, he may apply for a court order to expunge all records relating to the incident other than the non-public records to be retained by the Justice Department under Section 844(b)(1). This provision is of minor importance now as the Identification Division does not retain the records of juveniles unless they are tried as adults.

Twenty-three states now provide processes whereby a subject can have non-convictions purged from his record, and 13 provide a procedure for purging records of convictions. Fifteen states provide for sealing of records of non-conviction, and 20 provide for sealing of convictions. Sealing and purging statutes should not be aggregated to determine the number of states that provide for one or the other, as some state statutes qualify as both. Thirty-one states now have some provision for limiting dissemination of convictions, 25 provide for limiting dissemination of non-convictions. During the last three years provisions for sealing and purging conviction records have more than doubled. (See Privacy and Security of Criminal History Information, prepared by George B. Trubow for LEAA under LEAA contact 7-0553-J-LEAA.)

The JPL study examined the statutes of Arizona, Arkansas, and California, three states which have some provision of this type, and contacted officials in the state court systems to find out what procedure, if any, the state has for notifying the FBI of a change in status of one of its criminal history records. Arizona's statutes call for the setting aside of convictions, except that they may be pleaded and proved in subsequent prosecutions (Ariz. Rev. Stat. Ann. § 13-90, 1970). However, what in fact happens under this statute is that the person who has been convicted and has served his punishment may apply for a restoration of his civil rights. If his petition is granted he receives a certificate to that effect, but his record is still available for dissemination and the FBI is not even notified that this process has taken place.

Arkansas provides for purging "all records ...relating to a crime wherein the person has been acquitted or the charges dismissed" (Ark. Stat. Ann. § 5-1109, 1975). Arkansas also provides for the sequestering of records of first offenders so that they are available only to law enforcement and judicial officials (Ark. Stat. Ann. § 43-1231, 1975). When either of the processes occurs, the court sends a copy of the order to the Arkansas State Identification Division and the FBI Identification Division.

The California Penal Code allows a defendant who has been acquitted to file a motion to seal the record of his arrest and acquittal (Cal. Penal Code § 851.8, Deering Supp., 1980). California's procedure is to forward a copy of the judge's order sealing the record to law enforcement agencies, including the FBI.

The FBI reports that the number of fingerprint cards and related documents removed in response to court ordered expungements has increased from 57,370 in 1976, to 92,116 in 1977, to 106,986 in 1978.

On August 18, 1976, The Department of Justice instituted a procedure by which an individual, upon request and verification of his identity, may review the criminal history information maintained on him. If he wants any changes in his record he may apply to the contributor of the information. If the contributor corrects the record it must notify the FBI, and the FBI will make any changes necessary in accordance with the corrections (28 CFR § 20.34, 1975) The FBI processed 270 of these challenges in FY 1977 and 320 in FY 1978.

D. DISSEMINATION OF CRIMINAL HISTORY INFORMATION

Recipients of criminal history information are limited by 28 USC § 534 (1968) to law enforcement agencies, penal and other institutions. In 1971, the district court for the District of Columbia decided Menard v. Mitchell 328 F. Supp. 718 (1971), holding that other institutions refer to other official justice and law enforcement institutions only. Prior to this decision, the FBI had been providing criminal history records to states for employment and licensing checks. Immediately after this decision, Congress responded by passing the Departments of State, Justice, and Commerce, the Judiciary, and Related Agencies Appropriation Act, 1973, P.L. No. 92-544, § 2, 86 Stat. 1109 (1972) allowing the FBI to disseminate this information to officials of federally chartered or insured banking institutions. It also permits dissemination to state and local government agencies for purposes of employment and licensing if the check is authorized by a state statute and approved by the Attorney General. It is the responsibility of the Attorney General to balance the injury to individual privacy interests against the states' needs to have this information in deciding whether or not to approve the statute.

Additionally, in 1975 Congress amended the Securities Exchange Act, § 17 (15 USC 78q(F)(2)) to require every member of a national securities exchange, and every broker, dealer, registered transfer agent, and registered clearinghouse agency, to undergo an FBI fingerprint check.

Dissemination of criminal histories to federal agencies authorized to receive it is permitted pursuant to federal statute or executive order, 28 CFR § 20.33(2) (1975).

It has already been noted that dissemination of sealed records and records of arrests more than a year old without dispositions are limited to law enforcement agencies.

The Department of Justice has, in the wake of Menard v. Mitchell, strictly construed the statutes governing dissemination of criminal history files. It has revised its earlier position under 28 USC § 534 (1968) and now refuses to allow access, directly or through state law enforcement agencies, to railroad police and campus police. Even though they may be authorized by state statute to investigate crimes or apprehend criminals, the Department of Justice does not find these

groups to be authorized government officials under the meaning of Section 534. It has also refused, under P.L. 92-544 supra, to provide criminal history records to state boards of bar examiners when the board is established by rule of the state supreme court rather than by a statute. Section 536d(b)(4) of the proposed FBI charter would authorize the FBI to exchange criminal history information with law enforcement organizations authorized by state statute to investigate crimes or apprehend criminals on interstate common carriers.

Once the criminal history records leave the FBI's control, the only sanction available to enforce FBI dissemination policies is 28 CFR § 20.33(b)(1975): This provides that the exchange of criminal history record information with authorized recipients is subject to cancellation if dissemination is made outside the receiving department or related agencies.

E. FREEDOM OF INFORMATION AND PRIVACY ACTS

Under the Freedom of Information Act, P.L. No. 89-487, 80 Stat. 250 (codified at 5 USC § 552, 1977), all government agencies are required to supply copies of their records to any member of the public who requests them (5 USC § 552(a)(3)). It has been established that this act applies to computer tapes to the same extent that it applies to other records (Long v. U.S. IRS 596 F.2d 362, 1979). However, the act provides several categories of exemptions. Matters that are exempt under another statute, if the statute leaves the agency no discretion or supplies particular criteria for applying the exemption, may be withheld from the public (5 USC § 552(b)(3)). If disclosure of a file would constitute "a clearly unwarranted invasion of personal privacy" it need not be disclosed (5 USC § 552(b)(6)). Investigatory records compiled for law enforcement purposes are exempt if release would constitute "an unwarranted invasion of personal privacy" (5 USC § 552(b)(6C)). Note that the privacy standard for these records is less strict than the privacy standard for other records. There are other exemptions covering law enforcement records but they are of limited application (see 5 USC § 552(b)(7)). If the agency invokes one of these exceptions it must release any reasonably segregable portion after deleting the exempt portions.

Regulations promulgated pursuant to this statute allow the Attorney General to exempt the whole system of identification records from public disclosure. This exemption is noted in the Department of Justice regulations (28 CFR § 16.10, 1973) and is uniformly applied to exempt all criminal histories from disclosure.

The Privacy Act of 1974 (5 USC § 552a, 1977) was passed shortly thereafter to protect the privacy interests of individuals by regulating the collection, maintenance, use, and dissemination of personal information by federal agencies. However, it permits dissemination of information required by the Freedom of Information Act, and the general feeling is that the Privacy Act has very little impact.

F. IMPACT OF THE NEW CHARTER

The proposed charter will not substantively affect the Identification Division's management of criminal history records. It incorporates the language of 28 USC § 534, which authorizes the FBI to acquire, collect, classify, and preserve civil and criminal fingerprint records and criminal history information. The charter also authorizes exchange of this information with all of the current recipients, and additionally with law enforcement organizations authorized by state statute to investigate crimes or apprehend criminals on interstate carriers. It also prohibits the FBI from furnishing arrest data unaccompanied by a disposition for employment or licensing checks or from furnishing data to federal agencies for use in background investigations.

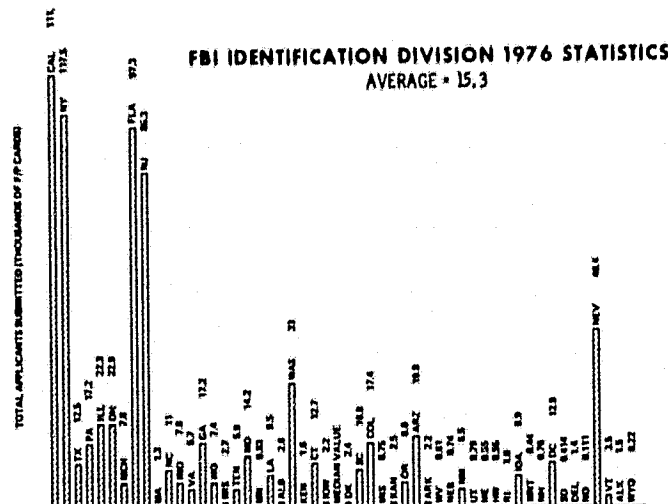
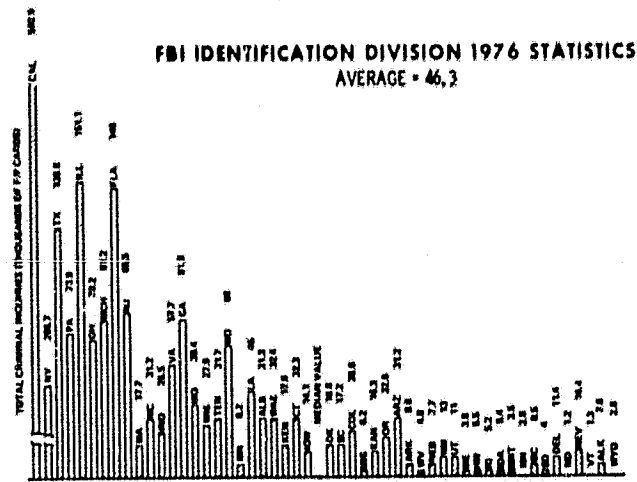
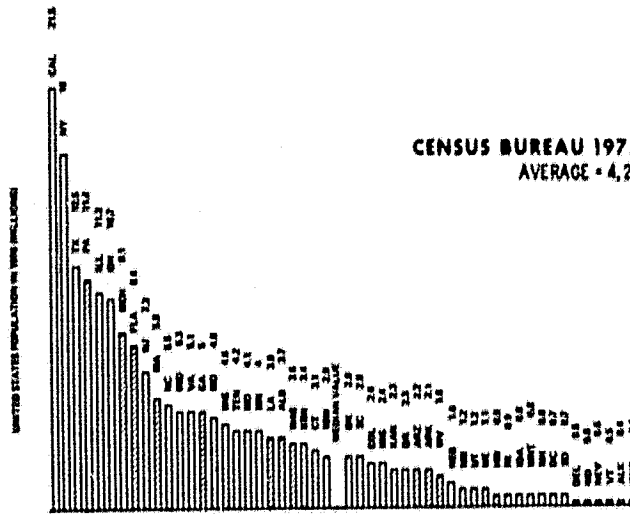
G OTHER LEGISLATION

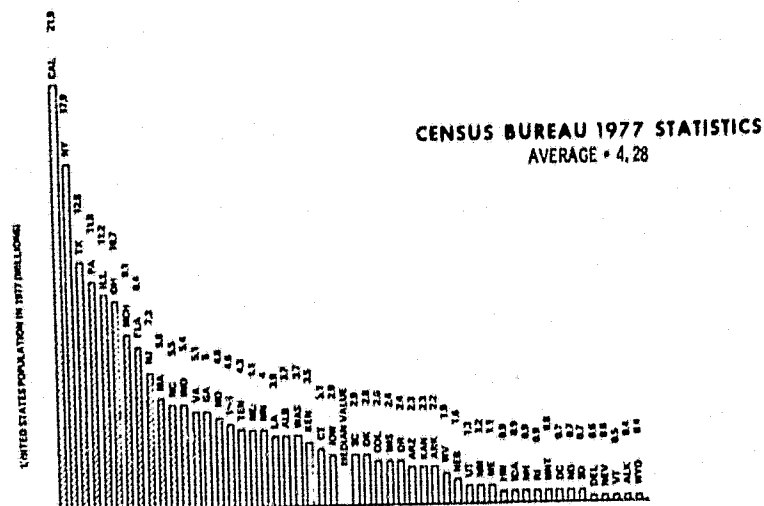
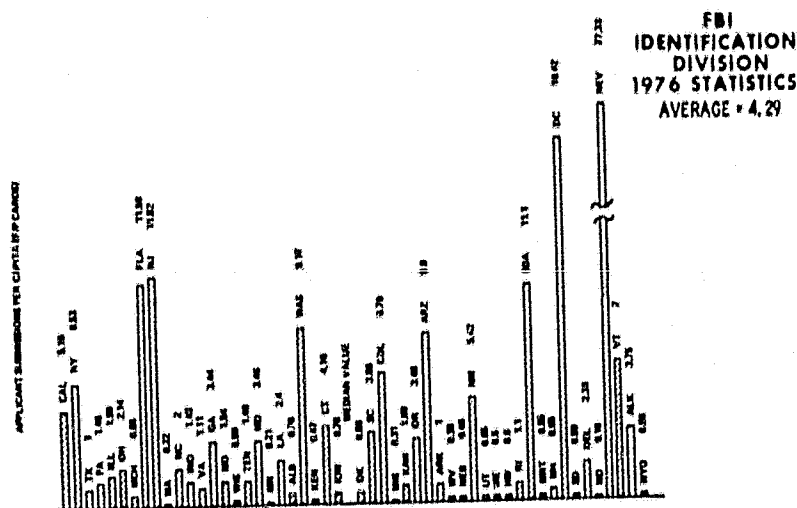
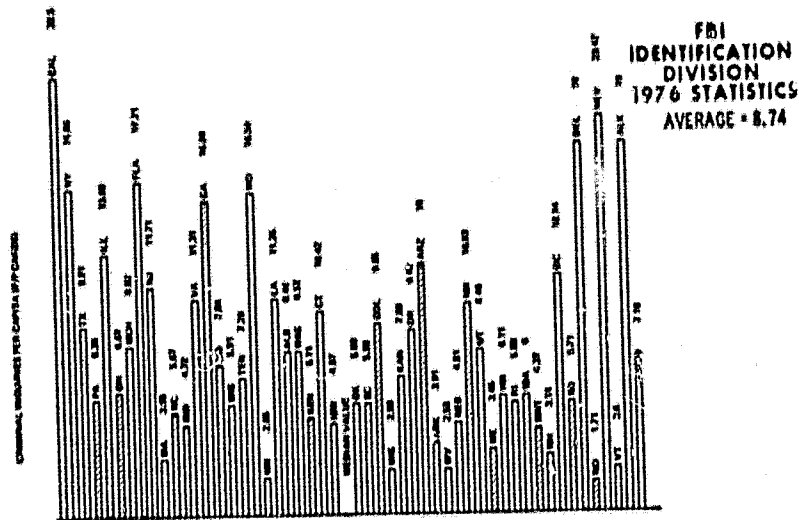
A number of bills introduced in Congress during the early and mid 1970's addressed the maintenance of a criminal records system. A bill introduced by Senator Roman Hruska (R-Neb.), S. 2462, 92nd Cong., 1st Sess. (1971), included a detailed treatment of record security. In early 1973, H.R. 188, 93rd Cong., 1st Sess. (1973), and H.R. 9783, 93rd Cong., 1st Sess. (1973), were introduced. These bills contained confidentiality provisions for arrest records, including sealing and purging standards. All of these bills died in committee. It has now been five years since Congress considered comprehensive justice information legislation. There has been some Congressional attention given to the security of medical and financial records, but none recently to criminal history data. It is difficult to know the degree to which this issue has settled. If it still is a live issue with Congress, it would not be surprising if the implementation of AIDS III brings a new round of legislation aimed at controlling the use of criminal history information.

Similarly, the judicial climate recently seems to have become more conservative. In the 1974 Tarleton decision the court discussed the constitutional right of liberty, and the possible curtailment of this right that occurs when a person stands accused of a crime. However, in a 1976 decision the Supreme Court held that the petitioner's constitutional rights were not violated when his name was included on a list of active shoplifters circulated by a police chief among local merchants, even though he had been arrested for shoplifting once 17 months before and had never been prosecuted. (See Paul v. Davis, 424 U.S. 693, 1976).

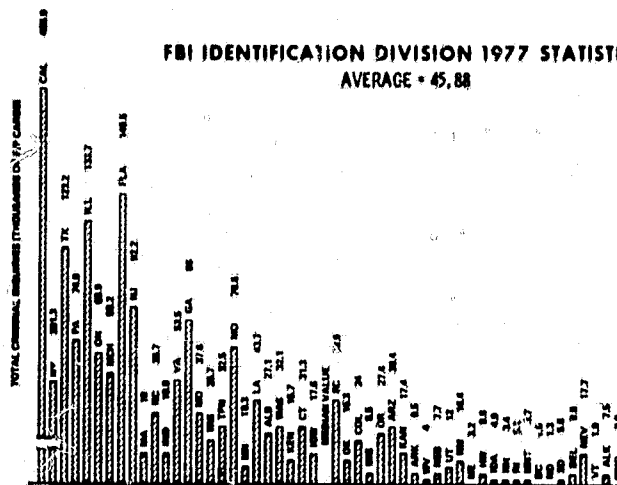
APPENDIX B

FBI AND CENSUS BUREAU STATISTICS

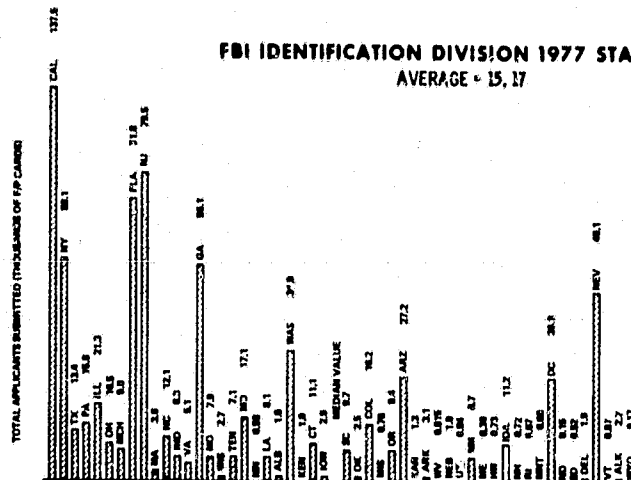




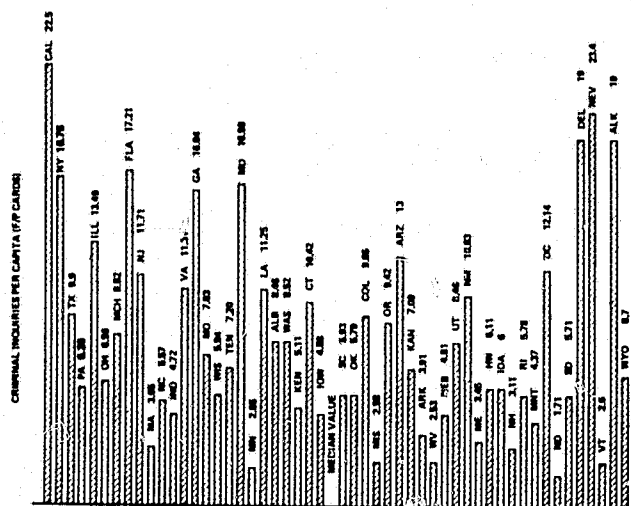
FBI IDENTIFICATION DIVISION 1977 STATISTICS
AVERAGE = 45.88

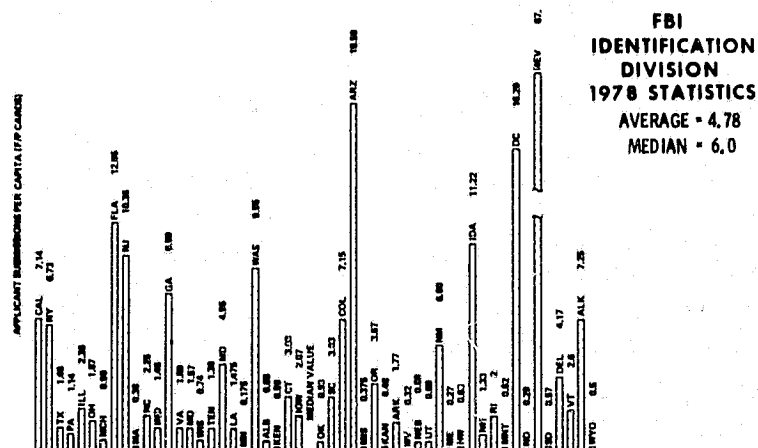
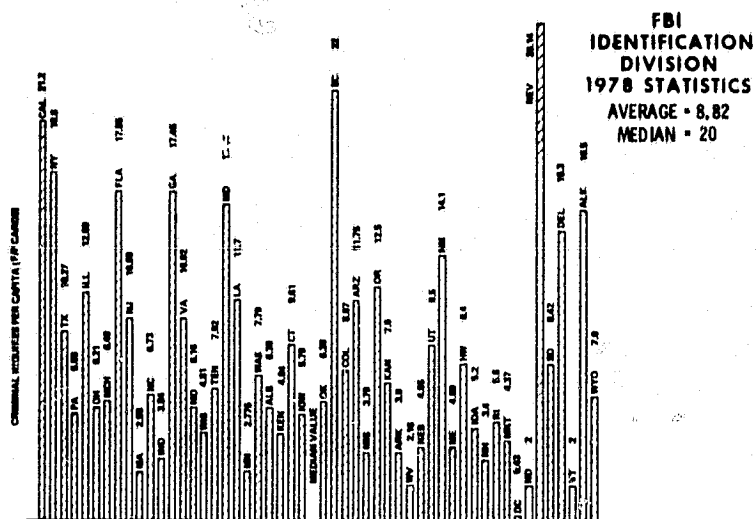


FBI IDENTIFICATION DIVISION 1977 STATISTICS
AVERAGE = 15.17



FBI IDENTIFICATION DIVISION 1977 STATISTICS
AVERAGE = 8.80



[illegible]

FBI
IDENTIFICATION
DIVISION
1979 STATISTICS
AVERAGE -

TOTAL CRIMINAL EXPENSES (THOUSANDS OF PP CASH)

AL	386.2
AK	154.2
AR	218.7
CA	315.8
CO	132.2
CT	194.2
DE	141.6
FL	194.2
GA	174.1
HI	76.3
IL	61.7
IN	81.5
IO	64.1
KS	69.9
LA	42.2
MA	11.1
MD	76.9
ME	28.3
MI	27.2
MN	14.9
MO	21.1
MS	17.9
MT	26.4
NE	14.1
NH	14.1
NJ	14.1
NM	14.1
NY	14.1
NC	14.1
ND	14.1
OH	14.1
OK	14.1
OR	14.1
PA	14.1
RI	14.1
SC	14.1
SD	14.1
TN	14.1
TX	14.1
UT	14.1
VA	14.1
VT	14.1
WA	14.1
WI	14.1
WV	14.1
WY	14.1
DC	14.1

[illegible]

CRIMINAL INQUIRIES PER CAPITA BY COUNTRY		1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2
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APPENDIX C

INTERVIEWS

REPRESENTATIVE

AGENCY

Mr. Donald Forkus	Chief of Police; Brea, California
Mr. Adam Delesandro	Director of Data Systems; New York State Identification Bureau
Sgt. William Wamness Detective Sgt. Daniel T. Lovett	Boston Police Department
Mr. Ronald Gobb	Administrative Assistant to the Secretary; Massachusetts Department of Public Safety
Mr. Gary McAlway	SEARCH, Inc. Illinois State Identification Bureau
Captain Donald Johnson, Commanding Officer Detective Leo Tschuldi	Central Records Division; New York City Police Department
Mr. Charles Jacobs, Bureau Chief	Crime Information Bureau; State of Florida
Lt. Wayne Tucker	Police Department; Oakland, California
Mr. Robert Garden Mr. Robin Skinner	Department of Justice Staff
Mr. Lawrence Lawler	National Crime Information Center, FBI
Mr. Robert N. McNamara, Jr.	Senate Judiciary Committee
Ms. Carol Kaplan Mr. Smiley Ashton	Law Enforcement Assistance Agency

The study task attended an IAI Meeting with the following state identification agencies:

- Mr. H. A. Albert; Texas
- Mr. Paul Schultz; Washington
- Mr. Charles Jacobs; Florida
- Mr. Jerry McAlway; Illinois
- Mr. Gray Buckley; Colorado

APPENDIX D

ACRONYMS

ACS	Automated Classification System
AFRS	Automated Fingerprint Reader System
AHU	Anti-Halation Underlayer
AIDS	Automated Identification Division System
ANS	Automated Name Search
ATS	Automated Technical Search
ATSPS	Automated Technical Search Pilot System
AUTOCOR	Automated Correspondence Station (part of AIDS)
AUTORESP	Automated Response Generation (part of AIDS)
A&R	Automation and Research Section of Identification Division
BER	Bit Error Rates
BLO	Blocking Out
CCA	Computerized Contributor Abbreviated Name
CCH	Computerized Criminal History (part of NCIC)
CCN	Computerized Criminal Name
CCNR	Computerized Criminal Name and Record (part of AIDS)
CCR	Computerized Criminal (Arrest) Record (part of AIDS)
CIR	Computerized Ident Response File (part of AIDS)
CLASS-A	Classification-A
CLASS-B	Classification-B
CLASS-C	Classification-C
CLCK	Classification Check
CNR	Computerized Non-Ident Response File
COA	Cutoff Age
CPU	Central Processing Unit

CRS	Computerized Record Sent File (part of AIDS)
CRT	Cathode Ray Tube
CSORT	Centerline Sort
DATE STP	Date Stamp, Count and Log
DBMS	Data Base Management System
DEDS	Data Entry and Display Subsystem (part of AIDS III)
DENT	Data Entry
DENT-A	Data Entry-Cards
DENT-B	Data Entry-Documents
DOA	Date of Arrest (on f/p card)
DOB	Date of Birth (on f/p card)
ECL	Emitter Coupled Logic
EMI	Electromagnetic Interference
ENC	Encode Input Data-Cards
ENCDOC	Encode Input Data-Documents
ENCK	Encode Check-Cards
ENDOCK	Encode Check-Documents
ERR	Update Error File
EYE	Color of Eyes (on f/p card)
FBI	Federal Bureau of Investigation
FEP	Front End Processor
FIFO	First-In-First-Out
FLAB	Film Lab Processing/Computer
FLOAD	Film Load
FPC	Fingerprint Classification
FPCS	Fingerprint Correspondence Section of the Identification Division
f/p	Fingerprint

GDBMS	General Purpose Data Base Management System
GEO	Geographic Location (on f/p card)
GPSS	General Purpose Simulation System
HAI	Color of Hair (on f/p card)
HGT	Height (on f/p card)
IBM	International Business Machines Corporation
ICI	Image Comparison Identification
ICRQ	Image Comparison Request
ICS	Image Comparison Subsystem (part of AIDS III, actually used for image retrieval for manual comparison)
ICV	Image Comparison Verification
ID, I.D.	Identification Division
IDENT	Identification
JPL	Jet Propulsion Laboratory
KIPS	Thousands of Instructions per Second (as executed by a computer)
LEAA	Law Enforcement Assistance Agency
MAIL	Open Mail and Sort
MFILM	Image Capture Microfilm
MIPS	Millions of Instructions per Second (as executed by a computer)
MMF	Minutiae Master File
MOE	Measures of Effectiveness
MTBF	Mean Time Between Failures
MTR	Master Transaction Record
MTTR	Mean Time to Repair
NAM	Name (on f/p card)
NASA	National Aeronautics and Space Administration
NCIC	National Crime Information Center

NCR	National Cash Register Company
OCA	Local Identification Number (on f/p card)
OCR	Optical Character Recognition
OMB	Office of Management and Budget
ORI	Originating Agency Identification Number (on f/p card)
PCN	Process Control Number
PICS	PCN and Image Capture Subsystem (part of AIDS III)
PMT	Photomultiplier Tubes
POB	Place of Birth (on f/p card)
QC	Quality Control
QUERY	On-Line Query
RAC	Race (on f/p card)
READ	Quality Control Check, Read, Annotate
RFI	Radio Frequency Interference
RH	Relative Humidity
RVF	Ridge Valley Filter
SACS	Semi-Automatic Classification System
SAR	Semi-Automatic Fingerprint Reader
SEAR	Search Review
SEX	Reported Sex of a Subject (on f/p card)
SID	State Identification Number
SKN	Skin Tone (on f/p card)
SOC	Social Security Number (on f/p card)
SPM	Search Processor Module
SS	System Supervisor Subsystem (part of AIDS III)
SSM	Subject Search Module
SSRG	Subject Search and Response Generation Subsystem (part of AIDS III)

TDFA	Top Down Functional Analysis
TFC	Technical File Conversion
TR	Transaction Record
TRC	Transaction Control File
TSS	Technical Search Subsystem (part of AIDS III)
TTL	Transistor - Transistor Logic
VDENT-A	Verify Data Entry-Cards
VDENT-B	Verify Data Entry-Documents
VLSI	Very Large Scale Integration
WAND	Wand Out of System